

THE WORLD BANK GROUP ARCHIVES

PUBLIC DISCLOSURE AUTHORIZED

Folder Title: Bank Administration and Policy : Food and Agriculture Organization : Food and Agriculture Organization [FAO] / International Bank for Reconstruction and Development [IBRD] Cooperative Program - Documents 1975 / 1977 Correspondence - Volume 1

Folder ID: 1056312

Series: Liaison with external organizations

Dates: 09/01/1973 – 03/31/1976

Fonds: Records of the Office of External Relations

ISAD Reference Code: WB IBRD/IDA EXT-08

Digitized: 03/17/2025

To cite materials from this archival folder, please follow the following format:
[Descriptive name of item], [Folder Title], Folder ID [Folder ID], ISAD(G) Reference Code [Reference Code], [Each Level Label as applicable], World Bank Group Archives, Washington, D.C., United States.

The records in this folder were created or received by The World Bank in the course of its business.

The records that were created by the staff of The World Bank are subject to the Bank's copyright.

Please refer to <http://www.worldbank.org/terms-of-use-earchives> for full copyright terms of use and disclaimers.



THE WORLD BANK

Washington, D.C.

© International Bank for Reconstruction and Development / International Development Association or

The World Bank

1818 H Street NW

Washington DC 20433

Telephone: 202-473-1000

Internet: www.worldbank.org

PUBLIC DISCLOSURE AUTHORIZED

FAO/IBRD Docs



The World Bank Group
Archives

1056312

A1994-054 Other #: 9 Box # 210424B

Bank Administration and Policy : Food and Agriculture Organization : Food and Agriculture Organization [FAO] / International Bank for Reconstruction and Development [IBRD]

DECLASSIFIED
WBG Archives

LI - FAO

w/ letter Sep. 6/73

DDI : G/73/48 Rev. 1.

INDUSTRY COOPERATIVE PROGRAMME

FAO/INDUSTRY JOINT TASK FORCE ON PROTEIN FOOD DEVELOPMENT

A PROPOSAL FOR A PROTEIN-RICH FOOD PROJECT

IN NIGERIA

SUMMARY

This document presents the case for a project designed to improve the nutritional status of small children in Western Nigeria, to be undertaken by the FAO/ICP Joint Task Force on Protein Food Development (JTF). The project involves the conception, development, launch and distribution of one or more protein-rich products for consumption by small children, with the objective of eliminating malnutrition caused by a sub-standard diet.

The document presents a 3-phase strategy - concept, test and market phases - designed to assess at each phase the risks of failing to achieve the ultimate goal of the project, namely a measurable impact on the nutritional status of the target consumer audience.

The first stage is the concept phase, the aim of which is to elicit whether a viable and lasting impact on malnutrition can be made or not and, if so, how. The concept phase will last 12 months at an estimated cost of \$100,000, and it is proposed that the costs be shared by FAO and JTF(ICP) members. Several ICP members are willing to meet their share of the costs if the principle of shared costs is accepted.

If the concept phase identifies realistic prospects for making a successful and viable impact on the nutritional problems of Nigeria, the Nigerian Government would be asked to accept the financial responsibilities for implementing the programme, having recourse to FAO and to ICP members for assistance as necessary.

Rome, September 1973



CONTENTS

	<u>Page</u>
1. Purpose	1
2. Introduction	1
3. Nigeria	2
3.1 The present nutritional situation	2
3.2 The need for action	4
3.3 The Nigerian authorities: their rôle	5
3.4 Definition of the Project and the Ultimate Goal	6
4. Strategic Plan and Resource Requirements	7
4.1 The Concept Phase	8
4.2 The Test Phase	9
4.3 The Market Phase	12
4.4 Profitability and Cash flow	13
5. Organization and Responsibilities	14
Chart 1: Concept Phase	16
Chart 2: Test and Market Phases	17

Appendices:

- I: Nigeria: a population map.
- II: Nigeria: country intelligence dossier.
- III: An assessment of the nutritive value of maize-soya mixture, 'Soy-ogi', as a weaning food in Nigeria. (British Journal of Nutrition, 1971.)
- IV: PAG statement on the promotion of processed protein foods for vulnerable groups.
- V: Activities of the World Bank Group in the field of protein.

A PROPOSAL FOR A PROTEIN-RICH FOOD PROJECT IN NIGERIA

1. PURPOSE

The purpose of this document is to present the case for the JTF's intervention in the development of an effective programme to combat protein-calorie malnutrition in Nigeria. The bases of this document are a short visit which two JTF members made to Nigeria in March 1973; the considerable knowledge of the situation available in FAO itself; and published, especially Government, sources.

Beginning with both an assessment of Nigeria's present nutritional position and a measure of the need for action, the document proposes the ultimate goal of the project, and describes its general features. A 3-phase strategy to achieve the goal is discussed, starting with a one-year concept-testing phase to check whether a viable project could be mounted at all. Attention is given to questions of organization and who will be responsible for doing what.

2. INTRODUCTION

Few subjects have attracted so much comment and analysis as has the problem of protein-calorie malnutrition (PCM). Current thinking on PCM is, broadly, that its causes are not so much a world shortage of proteins but rather that the available supply is unevenly distributed not only among the various groups but also within individual families; and that the actual and potential shortage of calories, especially among certain groups, is probably a more serious cause of PCM than any shortage of proteins. While an assessment of the protein-calorie supply position needs to be more detailed to be complete and objective, contemporary analysis holds firstly, that the PCM problem is as much a calorie deficiency as a protein shortage and secondly, that the problem is only severe in certain vulnerable groups such as weanlings, young children, and pregnant and lactating women. Moreover, the dietary habits of these vulnerable groups are also the result of a complex set of economic and social factors, many of them only indirectly connected with food and nutrition.

The objective of the FAO/ICP Joint Task Force on Protein Food Development is "... the establishment of viable protein food industries in developing countries"(1). Perhaps the key word in this statement of its objective is 'viable' and it therefore needs explanation. Firstly, 'viable' has the nutritional meaning of improving the nutritional status of a developing country's population. This impact is specifically aimed at those groups whose need for nutritional help is generally felt to be greatest. Secondly, 'viable' has the more conventional meaning of the project itself bearing its

(1) Source: DDI : X/73/9 p. 4

own costs over time. However, it does not necessarily extend to the need for an economic profit in the ordinary sense, since the profit in such an activity is considered to be partly a social, or indirect, profit(1).

Formed in October 1972, the JTF undertook in early 1973 a survey of ICP members to determine which countries were of greatest mutual interest for JTF activity. The final selection of countries was Kenya, Malaysia, Nigeria and Peru. It was felt that these countries offered both the need and the scope for intervention by the JTF and, having examined the nutritional, economic, social and political background of each country from available published sources, the JTF approved preliminary visits to each of the four countries to check the desk information (2) and to sound out Government thinking on the relevance of the JTF's objectives to their present nutritional situation. The following is an assessment of the present situation, and of the need for action, in Nigeria.

3. NIGERIA

3.1 The present nutritional situation

There is a tendency for Nigeria's increasing economic prosperity, following the end of the Civil War in 1970, to conceal the scope and nature of some of its more intractable social and economic problems. Without doubt, one of its severest social problems is the relatively widespread incidence of protein-calorie malnutrition "... on the medical side, the evidence of protein-calorie malnutrition is strong in many areas of the country. This includes a large number of children, 1-4 years of age, suffering from severe cases of protein-calorie malnutrition and the mortality rate among children aged 1-4 years may be as high as 50% in most parts of the country, and as many as 12% of these deaths can be attributed to various forms of malnutrition"(3). If the children displaying not-so-severe cases of malnutrition are added to those who do, the total number of children in need of help is considerable.

It is fairly easy to establish the definite need for action against PCM among small children. However, it is not so easy to quantify by how much their nutritional status must be improved in order to redress the present situation, because the data available on current mean daily intakes of calories, proteins and nutrients by children aged 13-60 months are inadequate for this analysis. Nevertheless, it is possible to gain a measure of the problem's magnitude and to specify fairly precisely what the mean daily requirements for this age group ought to be.

A striking feature of the information available on the nutritional status of Nigeria as a whole is that, in common with many developing countries, the average Nigerian's diet is more deficient in its calorie than in its protein intake. The realization of this fact has led to a change in contemporary thinking on nutrition of fundamental importance to programmes aimed to

- (1) For a commercial concern the public relations and security 'profits' might well compensate for any lack of economic profits, at least in the short-term.
- (2) Appendix II: Country Intelligence Dossier, Nigeria.
- (3) A Quantitative Analysis of Food Requirements Supplies and Demands in Nigeria, 1968-85, p. 2.

combat PCM. Nigeria is a typical case-in-point. The mean daily requirements of calories and proteins for a moderately active adult are about 2,400 Kcal. and 53 g. respectively(1). But, in Nigeria as a whole, the mean daily intake per inhabitant is about 2,200 Kcal. and 59 g. protein (total), clearly showing the relative deficiency of calories. However, caution is necessary in drawing conclusions from this data because firstly, the use of averages conceals the wide range of intake values between different geographical areas, between different age and socio-economic groups, and even within individual families; secondly, because the apparently satisfactory average protein intake is a function of the food composition of the traditional Nigerian diet; and thirdly, because in practice it is difficult to measure nutrition deficiency precisely, because food requirements change continuously and the built-in safety margins in the standards are debatable.

The unfortunate, but understandable, use of the arithmetic mean as a socio-economic parameter (in nutrition analysis, for example) conceals the true distribution function of calorie and protein intakes. It is precisely the uneven, or skewed, distribution(2) of intakes that illustrates the problem at issue: a very large number of people, constituting a substantial proportion of the total population, whose daily intake of calories and proteins is inadequate to their needs. This is especially true of intakes of animal proteins(3) which, owing to their high price and scarcity, are mainly consumed by the affluent consumer groups.

The uneven distribution of food supplies is applicable to a large segment of the population, but young children are subject to an additional and more specific problem. In the Western State of Nigeria the average daily diet contains about 1.8 kg. of starchy roots, tubers and fruits which provide about 60% of the daily calorie and about 40% of the daily protein intakes. Studies of food habits within individual families indicate that, if the diet of adult members of the family is poor, then the diet of the children of the family is even poorer in calories, proteins and nutrients(4). Not only is the sheer bulk of the diet too great but also the children tend to be given the 'left-overs' or the less beneficial of the two stewpots, rather than their share of such proteins as are available.

The present situation in Western Nigeria, therefore, is that there is a shortage of calories, and to a lesser extent of proteins, among a substantial proportion of the population. This shortage is particularly acute among small children owing to the sheer bulk of the traditional Nigerian diet and owing to the scarcity of animal proteins "... there is a wide measure of agreement that the widespread incidence of protein deficiency in the developing countries today is mostly the result of an inadequate quantity of food and the critical factor is the calorie intake and not protein"(5).

- (1) Op. Cit. p. 19: "Only about 15 g. protein and 135 Kcal. were contributed by animal products, although available food supply from animal products may have been underestimated".
- (2) In statistical terms, the mode is probably the more significant parameter. In socio-economic analysis, distribution functions are rarely Gaussian and the mean therefore has only mathematical, and little analytical, value.
- (3) Op. Cit., p. 23: "Only about 15 g. protein and 135 Kcal. were contributed by animal products, although available food supply from animal products may have been underestimated".
- (4) "Unequal distribution of food within the household", FAO Nutrition Newsletter, Vol. 10, No. 4.
- (5) Op. Cit., p. 24

3.2 The need for action

This analysis of the present nutritional situation in Western Nigeria not only identifies the nature of the nutritional problems of a fairly precise consumer group, but also suggests what kind of action is needed to redress the situation. "The production of infants' and children's food locally should be one of the nutritional goals" (1) and these foods should be formulated to narrow the gap between the required and actual intake levels of children aged 6-48 months but without aggravating the 'bulk problem'. An efficient source of calories, proteins and nutrients is therefore needed. While FAO suggests that food products of animal origin are most convenient additions to poor protein diets, "... well-prepared protein-rich food mixtures from good quality vegetable sources, and some legumes or pulses are also quite effective"(2).

This analysis confirms the clear need for an efficient and palatable source of calories, proteins and other nutrients for small children to be added into the existing, traditional diet. However, this is at best a short-term remedy to a much deeper problem, for one of the many basic causes of PCM is exactly the traditional dietary habits of the indigenous population. It is frequently said that attempts to improve nutrition standards have failed in the past because their success depended in part on fundamental changes in feeding habits. This may be true, especially for processed products. However, in Nigeria and in many other developing countries, the traditional eating habits are precisely one of the major causes of malnutrition. In Nigeria, so long as a large proportion of the population depend on starchy yams and cassava for their food meals, there can be no real prospects of improving nutritional standards. Indeed, in Western Nigeria there has been a steady trend from yams, with their 3 1/2% protein content, to cassava with its even lower level of about 1-2%. However difficult it may be to change feeding habits, there must be a shift in feeding habits towards the consumption of more nutritious cereals and of animal products, since this is the only effective long-term solution to PCM, especially among the more vulnerable groups. Moreover, introducing an efficient protein supplement to increase substantially the daily intakes of proteins, calories and nutrients inevitably involves a change in traditional habits, however small, and is therefore a threat to its successful acceptance. The present nutritional status of Nigeria calls for action but this action presupposes a change in consumer behaviour, and successfully changing consumer behaviour is a matter of skilful marketing and promotion techniques and of ingenious product development.

"Well-prepared protein food mixtures", however, are by no means the only solution to PCM in Nigeria. Not only is PCM an unfavourable factor in a general strategy for development, but it is also a problem which can be tackled from many different angles. The socio-economic prospects for Nigeria to 1985 are such that, to combat PCM, recourse will have to be made to several different solutions. These cover fields such as agricultural production(3) and development, public health, education and social infrastructure improvements. The prospects of an average population growth of

(1) Op. cit., p. 23

(2) Op. cit. and FAO "Protein Requirements, Nutrition Meeting Report, Ser. (37) 1965, p. 71

(3) For example, enriched cereals hold out considerable promise. Experience in rural Brazil shows that it is impractical to switch consumers from cassava to other cereals, largely for reasons of taste preference. A possible answer to this situation, therefore, is the enrichment of cassava to correct its poor and unbalanced amino-acid content. This approach, if successful, has the advantage of avoiding the considerable costs and increased risks of introducing a new product involving, as it does, changes in consumer behaviour.

over 3% per annum to 1985, together with the inevitable migration to the already crowded urban areas, seem to emphasize vividly the need for action to combat PCM. Processed products have an undeniable part to play in this 'action', but it is only a part of the total programme needed to narrow the gap between Nigeria's future nutritional requirements and its present nutritional status.

3.3 The Nigerian authorities: their rôle

During the JTF's preliminary visit to Nigeria in March 1973, meetings were held with officials in the Federal Government, in international organizations and in the University of Ibadan. The meetings included a discussion with the Permanent Secretary, Chief Medical Adviser and Nutrition Adviser to the Federal Commissioner of Health. This Ministry, in common with the Ministries of Agriculture and Industry, expressed interest in the general objectives of the JTF and agreed to cooperate to the best of its ability in any realistic proposals to combat malnutrition. Of the international organizations, officers of FAO, UNICEF and WHO all expressed their interest, and UNICEF's terms of reference include their participation in weaning food and school-feeding programmes. The Protein Advisory Group of the United Nations has frequently published recommendations for the promotion of protein-rich foods (see Appendix IV, p. 35). The World Bank has also taken steps to be in a position to support developing countries in their efforts to combat PCM. (See Appendix V, p. 36).

It is safe to assume, therefore, the collaboration and cooperation of the Federal Government, even though improved nutrition is not a priority national development target. In common with many developing countries Nigeria's development targets are concerned with the more direct and visible social and economic problems - agriculture, employment, industrial development and general reconstruction after the Civil War. The State Governments have not yet been contacted and we do not know what their views on the JTF's approach are, and they would have to be clarified at the appropriate time. In addition, the Federal responsibility for improved nutrition is spread over several ministries, so there is a need to ensure that adequate coordinating machinery exists to safeguard the various ministries' interests.

Much is already known about the symptoms and causes of malnutrition among small children in Nigeria, and there exists in Nigeria not only a considerable body of knowledge and experience but also the practical results of the work of Dr. Akinrele at the Federal Institute of Industrial Research, Oshodi (FIIR). The Project would be designed to build on these existing strengths the expertise and resources of industry allied to the cooperation of the Federal and States Government and of the international organizations. The project would therefore rely heavily on the experience and commitment of those people in Nigeria, like Drs. Akinrele(1) and Omololu(2), who have been engaged in the problem of malnutrition in Nigeria for many years.

As industry's partner in the JTF, FAO is willing to provide its knowledge of malnutrition in developing countries and qualified members of the Food Policy and Nutrition Division to help with the formulation and implementation of an agreed project. Members of the Industry Cooperative

(1) Director, FIIR

(2) Director of Nutrition, University of Ife.

Programme are also willing to consider realistic proposals to prove that the essential purpose of the JTF can be fulfilled, and among the more prominent JTF members are CPC International, Nestlé, Ralston Purina and Unilever.

3.4 Definition of the Project and the Ultimate Goal

Based on the information in section 3.1, the project under consideration is the production and marketing of infants' and children's foods in Western Nigeria (1) - the former Western Region and the Lagos Federal Territory of Nigeria. This involves the local formulation, trial, production, sale, distribution and consumption of nutritionally balanced food products, aimed at children aged:

- (a) 13 - 24 months (infants)
- (b) 25 - 48 months (young children)
- (c) 49 months and over (pre-school children)

The target age groups are carefully chosen to exclude unweaned children. Breast-feeding is widespread in Nigeria and encouraged by the medical authorities, and products formulated to replace breast milk are not under consideration. The nutritionally balanced food products are aimed at weanlings and small children (see Appendix IV, p. 35).

The ultimate goal of the project is:

- (i) to eliminate, by 1985, those symptoms of malnutrition in young children in the above groups which are largely due to sub-standard infants' and children's foods;
- (ii) to have, by 1985, 50% of children in the above groups in Western Nigeria regularly consuming the product(s) of the project.

In quantitative terms relating to food intake levels, the ultimate goal of the project is to ensure that the approximately 3 million children aged 13 - 48 months estimated to be living in Western Nigeria by 1985 will have mean daily allowances of:

Table I: Energy and Protein Requirements

Age \ Intakes	K Calories	Proteins(*)	Other Nutrients
13-36 months	1.360	16	As required
37-48 months	1.830	20	

Source: Energy and Protein requirements: Report of a joint 'ad hoc' FAO/WHO Expert Committee, 1973, Tables 8 and 25.

* Score 70 is used. The score is the ratio of the limiting amino-acid in the test protein to the limiting amino-acid in a reference protein pattern, multiplied by 100.

(1) See map, Appendix I

4. STRATEGIC PLAN AND RESOURCE REQUIREMENTS

The strategy for achieving the ultimate goal has three main phases: the concept phase, the test phase and the market phase. The purpose of each phase is to ensure that the risks of progressing to each phase are assessed before new commitments are made.

Two major target market segments are foreseen: the institutional feeding market and the conventional consumer market. The institutional market may prove to be the most effective trial ground for the project since substantial numbers of consumers can be reached efficiently and the impact of the product(s) easily assessed. To achieve this entrée, the cooperation of the Federal and States Governments, the medical authorities and of the international organizations is needed. The consumer, or retail, market is the second target group but is the true test of the mass appeal of the product(s). To achieve this appeal and to have the required impact on the nutritional status of the consumer audience, the project needs the support of the medical authorities as well as product(s) formulated and presented in a way that people want to buy and eat them. That is, the project is concerned with the food as well as with the medicine business.

If the ultimate goals of the project, as stated in the previous section, are realistic, the basic target consumer audience of the project are the 3 million children aged 13-48 months who are forecast to be living in Western Nigeria in 1985. The purchasing audiences for this target consumer group are 500-600 thousand mothers of the children aged 13-48 months on the one hand and the authorities in charge of institutional catering for children of school age on the other. Above all, the primary consumer target is the large proportion of children who constitute the more vulnerable groups: that is, those who would have a slender chance of an improved diet if the project was not launched. These are the 1 1/2 million children referred to in (ii) above.

The strategic plan is an outline of how the project, as described in Chapter 3, might be managed in order to ensure that the ultimate goal of the project is achieved. The strategic plan presented here is only one of several alternative strategies to reach this goal, but there is one aspect of it which should be emphasized. Experience shows that it is difficult to make the necessary nutritional impact on the target consumer groups: that is, the risk of failure is higher in this field than in many other more conventional operations. It is therefore very important to phase the project, in order to have as clear a measure as possible of the risks being undertaken in decisions to proceed to successive phases of the project.

Since the strategic plan is an outline, the resource requirements are necessarily an order of magnitude rather than a detailed and precise inventory of 'how much' is needed to achieve the goal of the project. Experience shows that protein-rich food undertakings are usually more a test of marketing than of technical skills, and the nature of the resources required reflects this experience. The actual figures suggested in this paragraph are designed to answer the question "how much do we need to spend in this phase to assess the risks of proceeding to the next phase?"(1).

(1) This is often called the 'value of information' in decision-making analysis. Projects to combat malnutrition in developing countries are classic examples of 'decision-making under (extreme) uncertainty' (DMU).

The figures are therefore very approximate and subject to wide interpretation, and the choice of a single estimate for each activity is no measure of accuracy: it is just simpler to assume variation on a single estimate than on spurious maxima and minima. Finally, the resources required do not make any allowance for sales (or other) income from the operation of the project. Such an allowance demands an estimate of selling price, which is precisely one of the variables to be elicited by the consumer research programme, and on which there should be no prior notions.

The project already possesses some laboratory and pilot-scale production facilities at the FIIR. In the last 10 years FIIR has developed a balanced and nutritious version of 'ogi', which is a slightly fermented maize meal widely eaten by people of all ages in Western Nigeria, and especially by the young children of the Yoruba people⁽¹⁾. The purpose of the project is to establish whether the market potential for such a product concept exists and, if so, whether the various nutritional, technical and commercial criteria of the project could be met. If the present product concept is either not acceptable to the target consumer audience, or if a new or different concept is preferred, then the purpose of the project is to identify the optimum concept and formulate the appropriate product(s) and marketing and commercial strategies to achieve the ultimate goal of the project. The project cannot, therefore, start from scratch because so much work has already been done. On the other hand, no irreversible decisions have yet been taken and there is ample scope to devise that product concept, operating strategy and marketing platform which will make the greatest impact on improving the nutritional status of the target consumer population.

4.1 The Concept Phase

The main purpose of this phase is to enable JTF members to know whether there is scope for a viable protein food development programme in Nigeria or not. The findings of the Concept phase would also include results of some panel or sample tests of specific product concepts or propositions, designed to measure their consumer acceptance and their nutritional impact.

The research during the concept phase will seek to answer the following questions:

- (a) what is the precise nature of the problem discussed in the proposal?
- (b) what exactly should our objectives be?
- (c) what concepts or propositions would meet these objectives?
- (d) what products/solutions would match those concepts/propositions?
- (e) how would those tested products/solutions be organized to meet the objectives?
- (f) what would the cost of such a programme be?
- (g) what criteria should be used to measure the project's nutritional and economic impact, and how might this be done?

(1) For a full explanation of soy-ogi, including information on 600 consumer tests conducted by Cadbury, Nigeria Ltd. see Appendix III.

The principal stages of the concept phase will be:

1. Desk research into feeding habits, sociological characteristics, family and child-care habits etc.
2. Research into:
 - market size
 - consumer groups
 - institutional feeding market
 - wholesale and retail distribution chain.
3. Research into:
 - food and food purchasing habits
 - attitudes to packaged foods
 - attitudes to food promotion methods
 - attitudes to advertising.
4. Research into nutrition needs.
5. Concept and proposition testing.
6. Product research, development and testing.

It is important to stress that the concept phase does not include a full product development programme but rather seeks to give early indications as to the acceptability and nutritional impact of some product ideas and propositions. The physical form of these ideas will still be at a very early stage of development. The market need and opportunity will, however, be clearly identified: the viability and impact of the project will be examined in detail: and the organization of the project will be an integral part of a total proposal which would be made to the Nigerian Government for implementation.

A leading Nigerian research company will prepare during September 1973 a full brief covering the research programme, together with a budget and time schedule. The duration of the research will be limited to 12 months and the cost is estimated to be about \$100.000.

4.2 The Test Phase

The purpose of the test phase would be to assess, under controlled test market conditions, the acceptability and nutritional impact of the propositions and products developed during the concept phase. The test would cover both the institutional feeding market and the normal retail market. The test market phase is essential in order to control the degree of business risk in the decision to implement the recommendations of the concept phase, and it enables control groups to be selected in order to measure the impact of the test programme.

The test market could be planned for Lagos or Ibadan, since both markets have the scope for effective marketing and promotion campaigns and are large enough to give realistic test readings. The major steps necessary to mount this test market are:

- (i) Product development programme continued;
- (ii) A test marketing campaign to include packaging, publicity, sampling etc.
- (iii) A selling and distribution system, together with alternative organization plans for the management of the test and market phases;
- (iv) A pilot production plant, including packaging and storage facilities;
- (v) A financial plan, covering pricing, costs and allocated overheads, and alternative methods of financing the market phase;
- (vi) A research plan to assess the nutritional impact, penetration levels, consumer reactions, attitudes to publicity etc.

The resources required for such a test phase are necessarily approximate until the concept phase has been carried. The following is a working hypothesis with a view to finding an 'order of magnitude' to the resources required.

The test market could be aimed at the 100,000 or so small children aged 13-48 months in Ibadan. The test would aim at the following penetration levels, after 2 years' operation:

20% of target audience consume 60g/day (regular consumers)

50% of target audience consume 20g/day (irregular consumers)

30% do not consume the product(s) (non-consumers).

(Clearly the project does not aim to have non-consumers but in practice they will be almost certainly a substantial proportion of the total audience).

On these assumptions the daily consumption of the product(s) is about 2.2 tons, or about 750 tons/year, and the total resources requirement ignoring any sales income, subsidies, tax allowances etc. are as follows:

The test phase would take about 24 months and the major resources required, excluding investments in land and/or buildings and non-cash items such as depreciation, are estimated to be:

Table II: Test phase: resource requirement

A. Fixed Assets*		
1. Machinery and equipment (possible additions to FIIR installation)		\$ 50,000
2. 3 vehicles for demonstration and delivery, and one pickup		\$ 25,000
	Sub-total	\$ 75,000
* Excludes any tax credits, allowances etc.		
B. Current Assets (gross, i.e. excluding creditors)		
1. Raw materials**		\$225,000
2. Packaging materials		\$ 50,000
3. Supplies		\$ 25,000
	Sub-total	\$300,000
** Assumes 1000 tons of product manufactured during 24-month period at a average raw material cost of \$ 150/ton.		
C. Operating Expenses		
1. 3-man management team comprised of marketing, processing and nutritional specialists		\$ 120,000
2. 20 staff, excluding management team		\$ 40,000
3. Advertising and promotion		\$ 50,000
4. Market research		\$ 10,000
5. Manufacturing expenses		\$ 5,000
6. Distribution costs		\$ 10,000
7. Development expenses		\$ 5,000
8. Contingencies		\$ 10,000
	Sub-total	\$ 250,000
	TOTAL RESOURCES REQUIRED	\$625,000

As an illustration of how the test market might function in practice and of how the resources for it might be made available, there follows a brief description of the Egyptian Government's scheme for Supramine* which is being arranged with help from UNICEF, FAO, WHO, and WFP.

Source: PAG Bulletin, Vol. III, No. 2

UNICEF AIDS NEW HIGH - PROTEIN INFANT FOOD PROJECT IN CAIRO

A new Egyptian infant-food plant - a joint effort of the Government of Egypt, the United Nations Children's Fund (UNICEF), the Food and Agriculture Organization (FAO), the World Health Organization (WHO) and the World Food Programme (WFP) - was formally inaugurated on 17 March in Cairo.

The production of 1,000 metric tons of Supramine* per year, an infant weaning food with 20 per cent protein content, sufficient to feed 50,000 babies for 8 months, is the goal of the new plant.

The Supramine plant has been built by the Nile Pharmaceutical Company, a government-owned corporation who will manage and operate it. UNICEF has equipped the plant at a cost of \$US 445,000 with milling, mixing, filling and packaging equipment, spare parts, in addition to the main production line. The Fund has also provided an initial supply of vitamins, enzymes and food flavourings.

The two main components of the food mixture -

hard wheat flour and dried skim milk - are being provided by the WFP. Over the next five years, WFP will provide foodstuffs, estimated to cost \$US 1,003,000. The other three raw materials used in the mixture - chickpeas, lentils and sugar - are being supplied by the Egyptian Government from locally available stocks.

Through government health centres the food will be distributed free to mothers. It will also be sold in 300 gm, packages (a five days' supply) for 10 piastres (22 US cents) through government-run pharmacies, thus making available for the first time at a reasonable cost a nutritionally-sound weaning food.

Supramine has been tested and modified to make its texture, colour and flavour acceptable to Egyptian mothers and infants. Using film-strips, posters and leaflets designed with FAO collaboration, a national campaign - also using radio and television - is promoting the new food's use.

Extract from UN Press Release March 1973.

4.3 The Market Phase

The purpose of this phase is to market the product(s) throughout Western Nigeria. This implies a large-scale marketing, distribution and production operation, involving significant investments in fixed and working capital and the hiring of a substantial number of employees in the project.

The results of the market phase would be compared with the standards set in the ultimate goal, and the decision to continue with the market phase or not would be taken after an agreed interval, say 2 years. This would be a trial phase.

The resources likely to be required for this phase are a pure guesstimate, say \$ 1 m/year (gross) over a 7-year period. However, for the decision to initiate the market phase to be taken, the project would be expected to break-even in the 5th-10th years after the beginning of the test phase.

4.4 Profitability and Cash Flow

The most delicate aspect of applied nutrition projects such as this is their profitability - social and economic. Governments and other non-commercial organizations question their social, or macroeconomic, value and point to experiences where the cost/benefit ratio proved adverse. Business organizations not only question the social value of nutrition projects but also demonstrate their low, or often negative, profitability. For them the low profitability is not balanced by the 'social, or indirect profits' mentioned in Section 2.

The basic premise of this paper is that the tripartite collaboration between Government, the UN System and industry greatly increases the chances for a lasting and viable impact on nutrition problems, such as those prevalent in Nigeria. While believing this to be a realistic prospect, we doubt that nutrition programmes destined for the vulnerable groups can be commercially profitable according to modern capital investment appraisal criteria. We do believe, however, that such a project as the one described here can at least recuperate the cash outflows, if the normal time horizon is extended to, say, 10 years. The cash flows of the project outlined above are as follows:

Table III: Cash Flow Guesstimate (\$ '000)

Phase	Concept	Test	Market	
			Trial	Operations
Months	0 - 12	13 - 36	37 - 60	61 - 120
Cash out	100	625	2.000	5.000
Cash in	-	325*	1.000*	6.400**
Balance	(100)	(400)	(1.400)	-

* Assumption that in test phases sales income subsidies etc. will amount to approximately half cash outflows.

** Assumption that cash outflows in operations phase plus negative cash balance at end of trial phase would be recovered in the operations phase.

The above cash flow statement would meet the minimum investment criterion proposed in this paper: that is, the payback criterion of all the outflows being recovered during the life of the project. Such a criterion does not satisfy the more modern criteria used in capital investment appraisals by business and financial institutions, and the discounted rate of return of the figures above is inevitably negative, although there is a hint that it would be

positive if the time horizon was extended. The difficulty is that, with nutrition projects especially, the uncertainty increases greatly the longer the horizon is.

The payback criterion is deficient in that it disregards the time value of an investment. In the case of projects such as nutrition programmes, there are grounds for suggesting that the time value of the investment is exactly the social benefit of a lasting impact on a country's nutritional status. Payback seems a satisfactory investment criterion, when it is essential that the investment only must be recovered and the 'profit' is some non-financial, but no less important, factor.

5. ORGANIZATION and RESPONSIBILITIES

One of the JTF's broad aims is to demonstrate by means of a viable programme of action that an impact on malnutrition can be made more effectively through the tripartite collaboration of Government, the UN System and industry than when each attempts to do so on its own. It follows, therefore, that reaching the ultimate goal proposed for Nigeria depends to a great extent on the willing cooperation of the Federal and State Governments, of the medical authorities, of international agencies and of industry itself. While this spirit of cooperation is indispensable and a unique feature of the proposal, the importance of designating specific responsibilities, and of the organization to discharge them, is vital.

The responsibilities to be borne in progressing this proposal through its various stages of achievement include all those which are commonplace in what is essentially a human undertaking. Responsibilities must be assigned for policy direction, operations management, research and development, technology, training and finance. The JTF is fortunate in that the needs of such a proposal, and the responsibilities which they imply, can be shared but must not be confused.

The proposal is that the concept phase is the responsibility of the JTF - that is, of the UN System and of ICP members. For the concept phase, the JTF's responsibilities include the policy, operational and financial management of the research and proposition-testing programme. It is proposed that FAO and JTF members share the cost of the concept phase (about \$100,000) and jointly make recommendations to the Nigerian Federal Government based on the research effort. Through FAO, the JTF has asked the Federal Government to designate a senior official, perhaps a Minister, as the Government 'contact point' during the concept phase, to whom the recommendations would be delivered. (See Chart 1, p. 16).

The implementation phase, composed of the test and market phases, would be the responsibility of the Federal, or State, Government. The Government would be responsible for appointing members of a Board of Trustees (or Governors or Directors) who would be responsible for the policy guidance of the project, with particular emphasis on its social rôle. The Board should be composed of a balanced number of senior people from Government, the UN System and industry.

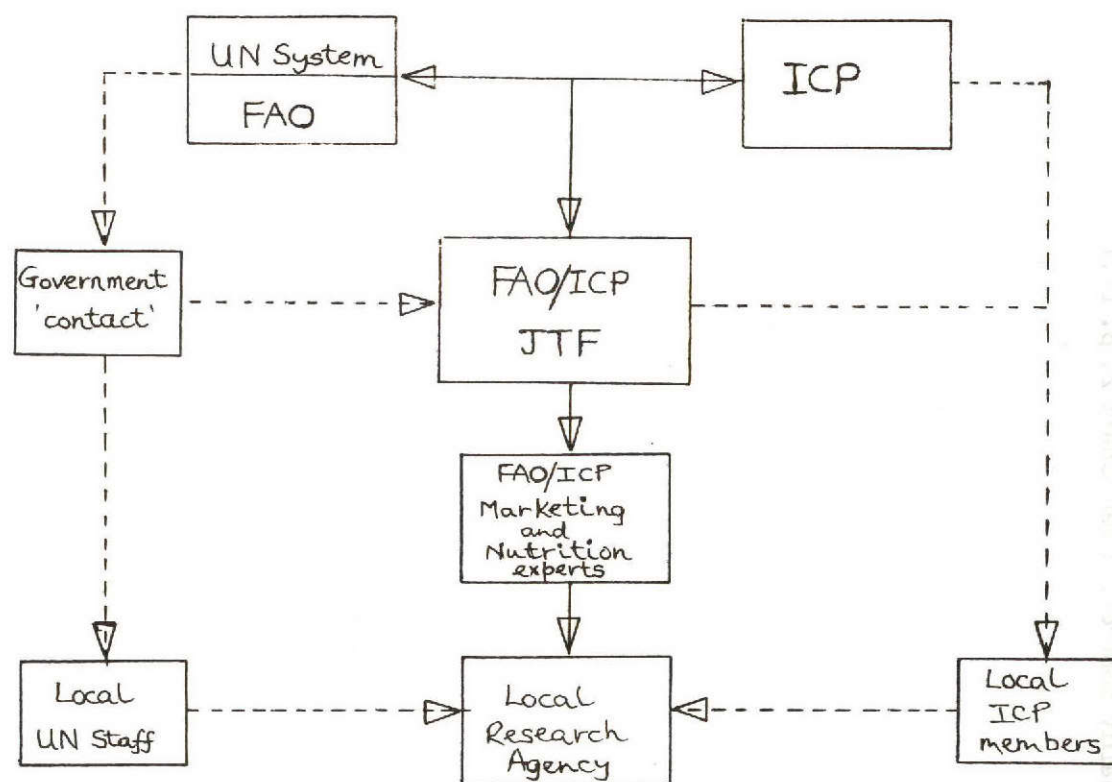
The Board would appoint a senior operations manager, preferably a Nigerian citizen, who would be responsible for the management of the project. As a guide to his authority, his time-span of responsibility (his reporting horizon) would be a minimum of 3 months. He would appoint members of his staff, seeking Board approval where necessary.

ICP would retain its rôle as a catalytic agent in the successful implementation of the project. It would encourage member companies to lend technical assistance - in marketing, R & D, production technology, distribution and so forth - in answer to requests from the operating manager or the Board. ICP's rôle would be to ensure that all requests for assistance were seriously considered by the Government, by the UN or by industry. As an example of assistance by industry, it is hoped that many aspects of the project, at least in the test phase, will be grafted onto existing local organizations. Such aspects might, for instance, include sales, distribution and quality control. (See Chart 2, p. 17.)

Chart 1. Organization proposal: Concept phase

Key:

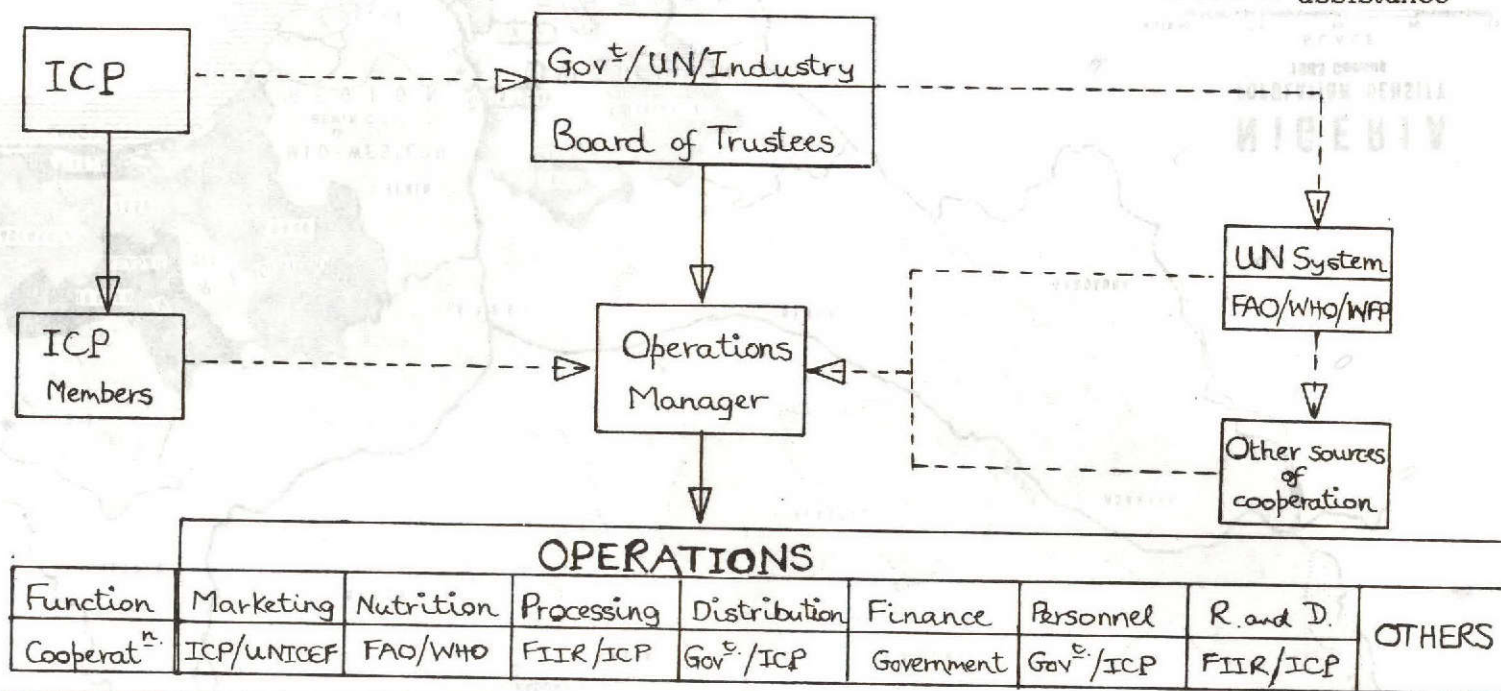
— = responsibility
 - - - = assistance



Responsibilities: Concept phase

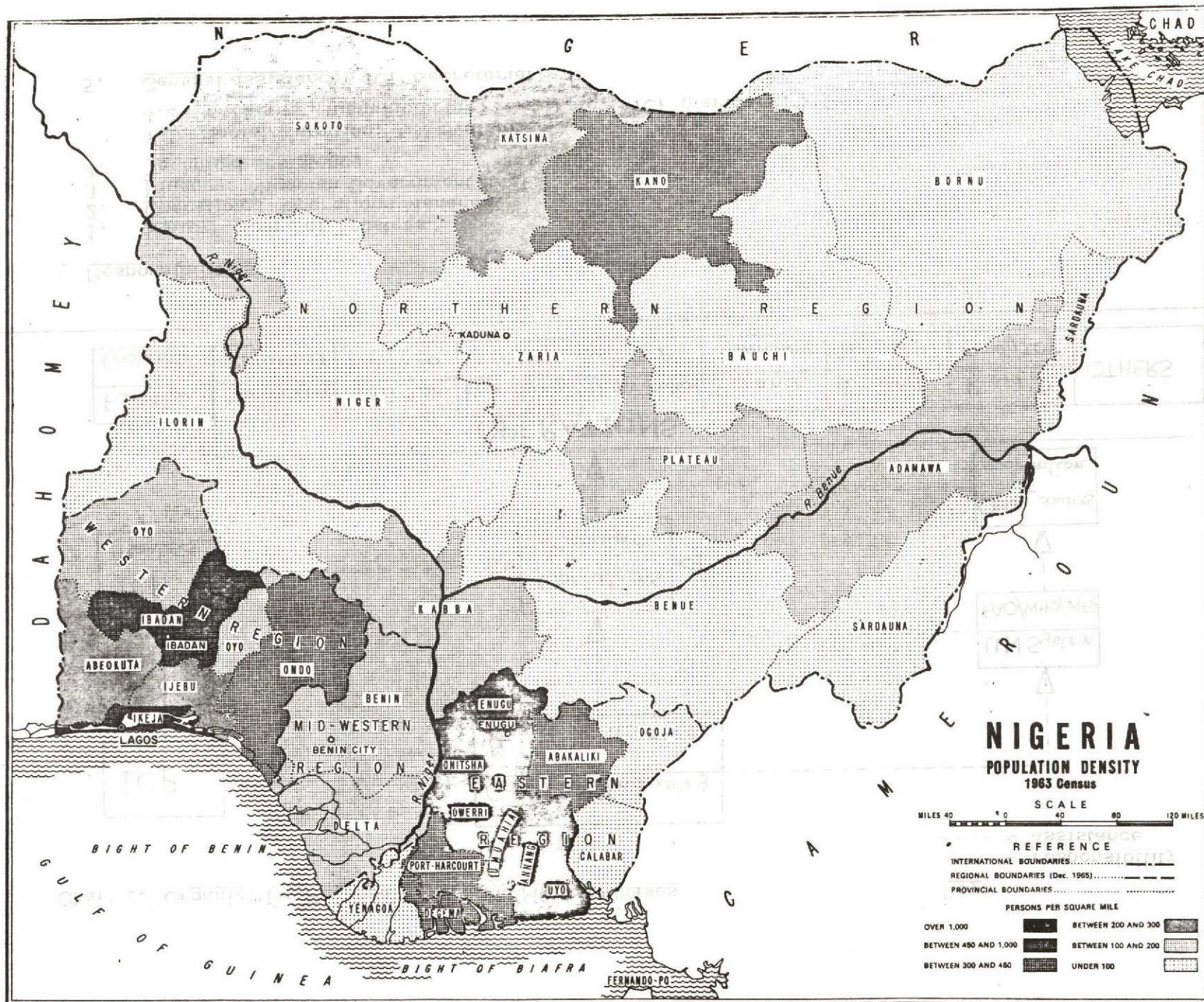
1. Finance: 50-50, FAO and ICP.
2. Research and concept/proposition testing: local research agency.
3. Implementation of recommendations: Nigerian Government.

Chart 2. Organization Proposal: Test and Market Phases



Responsibilities:

1. Policy: Board of Trustees.
2. Operations: Operations Manager.
3. Finance: Nigerian Government.
4. Technical assistance
 - 4.1 Social/Nutrition: UN System.
 - 4.2 Marketing, manufacturing, R & D etc.: ICP members.
5. General assistance: ICP Secretariat.



Nigeria: a population map.

Appendix I

Appendix II

FAO/INDUSTRY JOINT TASK FORCE ON PROTEIN FOOD DEVELOPMENT

NIGERIA INTELLIGENCE DOSSIER

1. Population: In 1969 Nigeria's population was 64 million and, at an average annual growth rate of 27%, will rise to 72 million in 1975. About 55% of the population is aged under 20. There are about 180 different ethnic groups in Nigeria of which three are politically significant: the Hausas in the North (55% of total population), the Ibos in the East (25%) and the Yorubas in the West (20%). By 1975 about 25% of the population will be urban-dwellers.
2. Geography: Situated on the West Coast of Africa facing southward on the Gulf of Guinea. Neighbouring States are Dahomey (West), Niger (North) and Cameroon (East). Area: 573,881 sq. miles. Population density 157/sq.mile.
3. Climate: 2 broad zones. North: hot and dry savannah uplands area; South: hot and wet tropical forest zone. In general, two seasons: monsoons from April/May to November; dry from December/March. Average annual rainfall in Lagos is 72"; in North 25-35"; virtually no rain from November/March. Temperature: In coastal regions: day 85-90°F, night 65-70°F; relative humidity 60-85%. In the North; March-May average temperature over 100°F, December/January morning temperatures average 55°F, relative humidity 15% (January) - 70% (August).
4. Languages: Official and commercial language is English. Principal newspapers, radio, TV programmes almost wholly in English. Main Nigerian languages: Hausa, Yoruba and Ibo. (There are over 200 indigenous languages).
5. Religion: (1963 census) Moslem 47% chiefly in the Northern States, Christians 37% mostly in the Eastern States: in Lagos and the Western States population about equally divided between Moslem and Christian.
6. Education: About one third of all children enroll for primary and only 4% for secondary education. There are marked regional differences and enrolment rates in the North are below average. There are at present five universities with nearly 8,000 students, 15,000 primary and 1,300 secondary schools. There are ambitious plans to expand and improve educational facilities, which have been rather neglected in past years. The shortage of teachers and budgetary constraints are the major problems in avoiding a drastic reduction in the teaching standards of an expanded system. Industrial training is limited, and the Government has established an Industrial Training Fund to finance appropriate activities.

7. Government: In October 1954 federal system of government introduced under British colonial administration. Full independence declared in October 1960. In 1963, Nigeria became a federal republic within British Commonwealth. In January 1966 Federal Military Government was established with two principal executive bodies: The Supreme Military Council and the Executive Council.

In May 1967 the Federal Military Government declared a 12-state federal structure, but the secession of the former Eastern region (self-styled Republic of Biafra) resulted in civil war which ended in January 1970. The twelve states are: North Western, North Central, Kano, North Eastern, Benue-Plateau, Kwara, Lagos, Western, Mid-Western, East-Central, South Eastern, Rivers.

General Gowon has announced that the Government will try to restore Nigeria to civilian rule by 1976.

The Supreme Military Council, in which the Military Governors, Armed Services Chiefs and the Federal Attorney General sit under the Chairmanship of the Head of the Federal Military Government and the Commander-in-Chief of the Armed Forces (General Gowon), decides Federal development policy and its influence on the future of the economy.

To harmonize and coordinate economic policies and development, the Joint Planning Board has been established, with the following membership:

1. Permanent Secretary, Fed. Ministry of Economic Development and Reconstruction (Chairman)
2. Director, Central Planning Office
3. Chief Statistician, Federal Office of Statistics
4. Director of Research, Central Bank of Nigeria
5. Director, Nigerian Institute of Social and Economic Research and Permanent Secretary, Ministry of Economic Planning from each State.

The Joint Planning Board is serviced by the Central Planning Office of the Ministry of Economic Development and Reconstruction. The legal system follows the pattern of English law.

8. Economy: There are three important characteristics of the Nigerian economy. Firstly, the increasing importance of crude oil production. Currently, the petroleum industry accounts for 10% of GNP and is expected to double its share by 1980; 45 oilfields developed by 5 companies provided more than half Government revenue in 1970. Secondly, since 1968 the balance of payments has been favourable (largely due to oil exports) and outlook for continued strength is good. Consequently, the public spending programme is not threatened by foreign reserve problems which now stand at \$260 million. Thirdly, high inflation rates, especially for food, are proving to be a major problem. Although thought to be slowing down, inflation rates in the major cities have recently struck levels as high as 15% per year.

Against this strong economic background, private investment has accelerated. In 1970/1971 private investment amounted to about \$750 million, and important new developments have begun in fertilizers, oilseed processing, pharmaceuticals, textiles and rubber.

The Second Development Plan 1970-1974, published after the end of the Civil War, stresses relief for war-damaged areas, the reconstruction of the infra-structure, increased social services and manpower training. The private sector will be open to wider foreign participation in joint ventures with local private or government equity.

Total GNP in 1978 is forecast at about US \$13 billion (constant 1970 prices) at an average annual growth rate of 7-8.5%. At this rate of expansion real GNP/capita will rise from US \$110 to US \$160 in 1978.

Given certain political stability and the absence of any serious unforeseen circumstances, the prospects for the Nigerian economy are very favourable. In the longer term, current discussions give prospects for the formation of a West African Economic Community.

9. Exports-Imports: Total exports in 1971 were \$1.9 billion. At the end of 1971, Nigeria's gold and foreign reserves stood at US \$ 262 million. The overall balance of payments has been favourable since 1968 and the reserves are expected to grow strongly in the 1970s as the revenues from oil exports increase. Apart from oil, which accounts for over 80% of total exports, major exports are cocoa, palm kernels, tin and groundnuts. Main imports come from UK, USA and Western Germany; major export markets: UK, the Netherlands and USA. To help local industry compete with imported products duty on some imported raw materials, and on some manufactured and semi-finished goods, has been reduced by between 10 and 50%.
10. Banks: The country's issuing bank is the Central Bank, which controls the money supply and Nigeria's foreign exchange transactions. Money supply for 1971 is estimated at \$1 billion. There are 13 registered commercial banks, from which short-term credit is available, and among the most important are Barclays and Standard. Commercial credit rates for prime borrowers are about 7%/year.

For medium and long-term credit, the major source is the Nigerian Industrial Development Bank, which has investment ventures with, among others, Alcan, Dunlop and U.S. Plywood. Current rates for 6-18 year loans are about 9% p.a., and loans are limited to developments in manufacturing, mining and tourism. Lagos has a small but active stock exchange.

As from 1 January 1973 Nigeria decimalized its currency:
1 Naira = 100 kobos = US \$1.52.

11. Labour: Total labour force in 1975 is estimated to rise to 24.9 million of which 70% will be engaged in agriculture, forestry and fishing (40% women). Total paid employment probably about 1 million. Estimated urban active labour force about 5 million; rural labour force 20 million. Widespread under-employment or under-utilization of human resources exist in both

rural and urban areas. Senior category (managerial/professional) manpower estimated at about 50,000; intermediate category (secondary school plus 2 years additional training) 150,000; skilled category (primary education plus few years technical training) 300,000.

12. Communications: These are recognized as inadequate to the country's needs. In 1966 there was 1 telephone/1,000 of the population - one of the world's lowest ratios - a situation which still existed in 1969. US \$ 150 million is earmarked to improve communications during the period of the 2nd National Development Plan (1970-1974).

Radio, Television, Press: All radio broadcasting organizations and television services partially or fully owned by four statutory corporations formed by the Federal or State Governments; Western Nigeria Broadcasting Corporation, Nigerian Broadcasting Corporation, Broadcasting Corporation of Northern Nigeria and Eastern Nigeria Broadcasting Corporation. Two of the radio services and all the television services are fully commercial.

About 25 daily newspapers, five with national coverage. There are also 18 national and local weeklies including 2 national Sunday newspapers and about 20 national women's and special interest magazines. Trade and technical press very underdeveloped. Combined circulation of all estimated at 1 million.

Railways: 2,178 route miles operated by Nigerian Railways Corporation. The system is roughly H-shaped with main lines from Lagos and Port Harcourt in South to Nguru and Maiduguri in the North.

Ports: The two principal ports, Lagos and Port Harcourt, handle about 90% of imports and 80% of exports. Other major ports are Burutu, Calabar, Dejemas, Koko, Sapele and Warri. There is also an important and much-used system of natural waterways.

Airfields: The two international airports are Lagos and Kano. World airlines fly regular international services to Nigeria. The national airline, Nigeria Airways, has both internal and external services.

13. Nutrition and Health Status

The staple foods are cereals in the north, and starchy roots in the south. Consumption of animal products (beef) is higher in the north, especially among Moslems. Fresh fish, goat, sheep and pork are the commonest sources of animal protein in the south. Green leaves, fruits and vegetables are frequent diet supplements among the Ibos (East) and grain legumes among the Yorubas (Western) communities. Grain legumes are eaten to a lesser degree in the East and the North. An important development is the production of gari from cassava. Dietary studies show generally unequal food distribution in families to the detriment of children, especially in the Western region, both in rural and urban areas.

Infant mortality is about 70/1000 live births.

It has been estimated that approximately 50% of the children born in Nigeria die before reaching the age of five. Malnutrition and undernutrition probably account for many of these deaths. Malaria, dysentery and pneumonia are other important causes of high premature death rates.

Among children, symptoms of malnutrition and avitaminosis are common, especially in the South and in the urban areas. Inflation of food prices is a serious constraint to the variety of foods consumed, and in the cities supplies are erratic. Main problems are the low productivity of Nigerian agriculture and the scarcity of animal proteins.

In the National Development Plan health services are recognized as grossly inadequate. There is a great lack of trained staff (Doctor/population ratio may be as low as 1:100,000) and hospitals are under-equipped and badly managed. There is about 1 hospital bed per 1,800 inhabitants.

Total allocation to the Health Sector during the Plan period is \$160 million, chiefly for the expansion of teaching hospitals, the development and reorganization of existing medical and health services, and the restoration of facilities destroyed during the Civil War.

14. Food supplies

In the 60s the situation deteriorated. In 1970 the per capita daily intake was estimated to be 2290 calories, some 80% of which were supplied by cereals, starchy foods and sugars. Protein intake was 59,9 g/day; 8,4 g of which were from animal sources. In 1961-63, corresponding figures were 2440 calories, 80%; 65,5 g and 9,6 g respectively.

15. Raw materials

Agriculture is still the keystone of the Nigerian economy with about 70% of the country's labour force employed in the sector. Its contribution to the GNP is, however, declining (1960; 70%; 1966; 55%).

Until very recently, with the spectacular rise of oil as the major foreign exchange earner, agricultural produce and timber accounted for over 60% of Nigeria's exports. Main agricultural exports are: decorticated groundnuts, raw cocoa, palm kernels, palm oil, raw cotton and rubber. Production has a regional concentration: groundnuts and cotton from the north, cocoa in the west, rubber in the mid-west and palm kernels/oil in the east.

Produce grown for domestic consumption is about five times the value exported and is mostly not marketed.

Food production is greatly diversified. Main food sources are yams, cassava and cocoyams in the south; maize, guinea corn, rice, millet, cowpeas and cattle in the north. Also grown are sorghum, soybeans, groundnuts, sesame, bananas, and kola nuts.

Other than beef, animal food sources are mutton, goatmeat, pork, poultry, milk and eggs.

Fisheries contribute little to national food supplies. Over 80% of domestic demand is met by imports.

Figures (many of which are FAO estimates) for 1971 are (1,000 metric tons):

Paddy rice, 550; sorghum, 3,500; millet, 2,800; corn, 1,220; cowpeas, 700; cassava, 7,300; sweet potatoes and yams, 13,500; soybeans, 33; groundnuts in shell, 1,100; sesame seed 200; cottonseed 80; bananas and plantains 1,750; kola nuts, 160; cane sugar, 240; meats, 87; milk, 407; eggs, 82.

Only soybean and sesame seed show clear increases. Production of both has almost doubled in the last five years.

Production of local food has been fairly static in recent years and seems to have lagged behind the growth of incomes, and regional food shortages have recently arisen.

16. Food Industry Infrastructure

Food crops are not controlled by the State Marketing Boards.

Food, drink and tobacco is the largest sector in manufacturing and employs about 15,000 people. In 1971, average capacity utilization in five food companies was about 80%. Most manufacturing concerns in Nigeria are small-scale, although 30% of the firms employing 100 people or more account for 85% of total value added.

Total employment in manufacturing is about 100,000. Skilled labour is scarce. In 1967 average monthly salaries were: unskilled labour \$30; skilled and semi-skilled \$75; professional or managerial \$250; and expatriates \$650.

Foreign-owned, especially British, companies dominate Nigerian manufacturing industry. Although most industries are not very competitive, profitability is high with prices firm and costs fairly low. Return on equity frequently ranges from 25-35%/year.

Nigerian industrial infrastructure suffered a setback as a result of the Civil War. Present government plans aim to extend electricity supply to rural areas. However, power consumption is still low at about 800 MW and forecast for 1980 is 70 Kwh/capita.

Income tax relief is available for up to five years if the company meets criteria established by the Federal Executive Council concerning rate of expansion, efficiency, local raw material utilization, training and development of Nigerian personnel, the industry's relative importance, and other general economic considerations. Ordinary rates of company profits tax is 45% on profits of \$15,000 or more.

Relief from import duties is available through the Industrial Development (Import Duties Relief Act), 1957 which allows for refunds on certain imported goods. Also, accelerated depreciation is admitted on industrial plant and buildings (15% p.a.) and annual allowances of 10% are also granted.

The Nigeria Government's policy is to attract foreign capital for purposes consistent with national planning goals. However, the new incentives give considerable scope for administrative discretion: while the administration has been sound, some difficulties have arisen and appropriate changes in some of the incentive devices can be expected.

17. Local Partners

Among possible local partners who have, or are planning to have, operations in Nigeria are: UAC (Unilever), 7-Up, Pfizer (animal feeds), Cadbury, Guinness, Forecast-McKesson, Nestlé. No reliable data are published concerning the existence of possible local Nigerian partners.

18. Government Regulations and Attitudes

The main legislation affecting industrial incentives and Government attitudes is Decree No. 22 of May 1971. The Decree distinguishes between "indigenous" and "foreign controlled" companies, for purposes of classification as a pioneer company. A pioneer company is a public company which has been granted a pioneer certificate and is operating in a pioneer industry. To qualify for pioneer status, foreign-controlled companies must have incurred capital expenditure of about US\$ 230,000 before start-up (about US\$ 75,000 for indigenous-controlled companies).

19. Marketing opportunities

Reliable and coherent data on the Nigerian consumer goods market is scarce but the signs are that it is rapidly growing from a relatively small base. There are probably about 1 million families in the market for repeat-purchase products and the majority live in the urban areas where paid employment exists.

Consumer tastes and habits probably vary considerably by region and the average diet is largely dictated by the crops available in each area. However, the consumption characteristics of Nigerian families are changing rapidly towards a more homogeneous diet with a higher proportion of Western food items included.

The distribution network is almost certainly rather fragmented and dominated by the large trading companies. About 20% of total food consumption is handled by the retail trade. Transport and storage is rather poor, especially in the rainy season. There are no laws controlling trade and competition, although informal price maintenance exists.

It is doubtful that there exist adequate numbers of qualified or trained staff for commercial employment. However, the recent growth of local and foreign enterprise in all sectors indicates that with appropriate training the required standards can quickly be attained.

Nigeria is one of the most attractive "new" markets in the developing world. Competition, therefore, from both local and foreign companies in the food and the non-food markets will be stiff. In the urban areas inflation is high but this may act as a stimulus to increased activity as price and profit levels become more attractive to enterprises based on higher levels of technology.

APPENDIX III

Br. J. Nutr. (1971), 26, 177

**An assessment of the nutritive value of a maize-soya mixture,
'Soy-Ogi', as a weaning food in Nigeria**

BY I. A. AKINRELE AND CHARITY C. A. EDWARDS

*Federal Institute of Industrial Research,
P.M.B. 1023, Ikeja, Lagos, Nigeria*

(Received 4 August 1970 - Accepted 12 March 1971)

1. Sour maize pap fortified with soya (Soy-Ogi), developed at the Federal Institute of Industrial Research, Oshodi, Nigeria has been evaluated chemically for its nutrient composition, biologically for protein quality and toxicity, and therapeutically on patients with kwashiorkor.
2. The indications are that it is a complete protein food suitable for feeding to children after weaning, and it compares favourably and economically with milk foods.
3. It was successfully used to restore normal health to children suffering from kwashiorkor.

Kwashiorkor, a protein-deficiency syndrome, is a major debilitating disease of children in many developing countries. This is due largely to the low purchasing power of the majority of the population which denies them access to adequate weaning foods. In Nigeria, for example, Morley (1958) observed that one out of every five children brought into the Wesley Guild Hospital, Ilesha (population 165 822) was in this condition, and he was seeing up to 300 cases of kwashiorkor in 1 year (Collis, Dema & Omololu, 1962). Brock (1961) went further to suggest that for every one case of kwashiorkor there were 100 cases of protein malnutrition in the pre-kwashiorkor condition. The traditional weaning food used in this locality and by over 10 million Yorubas living in the Western States of Nigeria is a maize preparation called 'ogi' (pap). Williams (1933) first reported the incidence of kwashiorkor among children between the ages of 1 and 4 years in the Gold Coast, now known as Ghana. In all the cases examined there was a history of deficient breast-feeding, and the only supplementary food used was a similar preparation of maize called 'akasa'.

The traditional method of preparation of ogi consists of soaking maize grains in cold water for 1-3 d, then wet-milling them with fresh water and sieving the slurry through a screen mesh of about British sieve size no. 36. The liquor is finally left to stand for another day or two at room temperature (about 30°), when it sediments and turns sour. The wet cake is usually boiled in water to give a gruel containing about 5% solids and used in this form for feeding infants. Akinrele (1966) found that the biological quality of the protein of ogi is so poor that it does not support growth in rats, but, when it is supplemented with heated full-fat soya in the proportions of 70 parts of ogi to 30 parts of soya, the protein efficiency ratio (PER) increases threefold, making the protein almost as good as casein. With the aim of bringing relief to Nigerian children in particular, the Federal Institute of Industrial Research has developed a process for the incorporation of full-fat soya flour into ogi and has given the name

I. A. AKINRELE AND CHARITY C. A. EDWARDS 1971

Soy-Ogi to the final product. It has been estimated (Akinrele, Adeyinka, Edwards, Olatunji, Dina & Koleoso, 1970) that Soy-Ogi could be produced at one-third the cost of the branded infant foods commercially available in Nigeria. Its palatability has been tested extensively amongst children and their parents in urban as well as rural areas. In a report prepared by Cadbury's (Nigeria) Ltd (1969, private communication), based on 600 consumer tests, it was stated that 'except for its unattractive container, the baby food powder (Soy-Ogi) was preferred to the other products compared, a commercial dried cow's milk (Lactogen), a filled milk preparation (SMA) and plain ogi in all other qualities'.

The aim of the investigation now described was to establish the efficacy of Soy-Ogi in preventing and curing protein malnutrition in Nigerian children.

EXPERIMENTAL

Chemical analyses

The nutrient composition of Soy-Ogi was determined by standard chemical methods of food analysis. Moisture, ash, ether extractives, protein, fibre, linoleic acid, vitamins C, A, riboflavin and thiamin were determined by the methods of the Association of Official Agricultural Chemists (1965). Calcium and phosphorus were determined by the Wisconsin Alumni Research Foundation by the method of Christensen, Beckman & Birdsall (1968). The amino acid profile of Soy-Ogi protein after hydrolysis with boiling HCl was obtained by single-column chromatography with the Technicon system. Tryptophan was determined by the method of Miller (1967), cystine by performic oxidation (Moore, 1963) and available lysine according to Carpenter (1960).

Biological evaluation

The protein qualities of Soy-Ogi, lactogen and casein were assessed biologically in rats. The following values were determined:

$$(1) \text{ Nitrogen digestibility coefficient} = \frac{[\text{food N} - (\text{faecal N} - \text{metabolic N})] \times 100}{\text{food N}};$$

$$(2) \text{ Biological value} = \frac{[\text{food N} - (\text{faecal N} - \text{metabolic N}) - (\text{urinary N} - \text{endogenous N})] \times 100}{\text{food N} - (\text{faecal N} - \text{metabolic N})} \quad (\text{Mitchell, 1924});$$

$$(3) \text{ Protein efficiency ratio (PER)} = \text{g weight gain/g protein intake (Osborne, Mendel & Ferry, 1919);}$$

$$(4) \text{ Corrected PER} = \frac{2.5}{\text{experimental PER of casein}} \times \text{experimental PER of test diet};$$

$$(5) \text{ Net protein utilization (NPU)} = \frac{\text{biological value} \times \text{digestibility coefficient}}{100} \quad (\text{Platt, Miller \& Payne, 1961}).$$

Vol. 26

Nutritive value of maize-soya mixture

$$(6) \text{ Corrected NPU} = \frac{72}{\text{experimental NPU of casein}} \times \text{experimental NPU of test diet};$$

$$(7) \text{ Net dietary protein calories \%} = \frac{\text{Pcal\%} \times \text{NPU (operative)}}{\text{(NDP Cal \%)}} \quad (\text{Pellett, Kantarjian \& Jamalian, 1969})$$

$$\text{where Pcal \%} = \frac{P \times 4 \times 100}{\text{ME}};$$

ME = 0.95 GE - 0.075 × % N (Miller & Payne, 1959),

P = percentage protein in the diet, ME is the metabolizable energy and GE the gross energy (kcal/100 g).

Twenty male weanling albino rats, of weights ranging from 70 to 108 g, were allotted to four groups according to a randomized block design. Each rat was caged in wire screen mesh, fitted with a container to receive the faeces and urine separately. The faeces and urine were collected in 1 % (w/v) sulphuric and acetic acids respectively to prevent loss of N. The compositions of the experimental diets are given in Table 1.

Table 1. *Composition (g) of experimental diets A-E*

Ingredient	A Casein diet	B Soy-Ogi diet	C Lactogen diet	D Soy-Ogi alone	E Low-protein diet
Cassava starch	702	352	352	—	792
Cellulose	40	40	40	—	40
Maize oil	118	88	—	—	118
Salt mixture*	20	20	20	—	20
Yeast and other vitamin supplements†	20	20	20	20	20
Protein source:					
Whole-egg powder	—	—	—	—	10
Casein	100	—	—	—	—
Lactogen	—	—	568	—	—
Soy-Ogi	—	480	—	980	—
Protein content (%)	10	10	10	20	2

* Hubbell, Mendel & Wakeman salt mixture (Hawk, Oser & Summerson, 1954b).

† ENGEVITA Vitamin Dried Yeast (inactive) prepared by Koninklijke Nederlandsche Gist- & Spiritus fabriek NV, Delft - Holland. 20 g mixed with 15 drops of Citradex manufactured by Glaxo (Nig) Ltd to provide the vitamins required to meet the needs of a growing rat according to the National Research Council (1962).

Diets A, B and C each contained 10 % crude protein; diet D was left at 20 % protein to determine the net operative protein utilization of Soy-Ogi; the egg-protein diet E contained 2 % protein. A weighed quantity of each experimental diet was made into a paste with water and put in a wide-mouthed glass bottle fixed to the side of the cage. The food was changed daily and the quantities consumed were carefully weighed. The rats given the low-protein diet E were allowed 3 d for adjustment to their cages and were then continued on the diet for 21 d for the determination of endogenous values. For the determination of the digestibility coefficients and biological values, diets A, B, C and D were given to the rats for 24 d. The faeces and urine excreted by each rat from the 4th to the 11th day of the experimental period were separately

I. A. AKINRELE AND CHARITY C. A. EDWARDS

1971

pooled for N analysis by the Kjeldahl method (Association of Official Agricultural Chemists, 1965). To obtain PER, the weight gain of each rat on diets A, B and C and the food consumed between the 4th and the 24th days of feeding were measured. Diet D was used to estimate NPU (operative).

At the end of the experimental feeding period, the rats given diets A, B and C were killed and their livers were removed and sectioned for histological examination. The rats on diet D, consisting only of Soy-Ogi fortified with vitamins, were kept on the diet for 150 d. After 100 d, two of them were mated with females that had been fed on diet D for the same period. The progeny of the mated rats were reared on Soy-Ogi for 31 days after weaning.

Therapeutic evaluation of Soy-Ogi in kwashiorkor

In collaboration with Lagos University Teaching Hospital, the paediatrician in charge of the Institute of Child Health selected, from among those attending the Nutrition Clinic, fifteen children (1-3 years old) who were suffering from kwashiorkor at various stages and admitted them to the paediatric wards of the hospital. Each child was examined within 24 h of admission and the results were recorded on special forms. The diagnosis was graded as severe, moderate, or slight kwashiorkor according to a prearranged system.

The children were weighed naked on admission and every other day thereafter. Blood samples were taken from every patient every 7 d for 28 d, and analysed for total serum protein, albumin, globulin, packed cell volume (PCV) and haemoglobin by standard clinical methods (Hawk, Oser & Summerson, 1954a). The children were given antibiotics by injection for the first 5 d from admission, and prophylactic anti-malarial drugs were regularly administered throughout the period in hospital. Some of the children showed clear signs of vitamin deficiencies such as angular stomatitis. A daily supplement of vitamins and iron was therefore given. The skin lesions due to kwashiorkor were left open and treated with gentian violet. Anorexia was usually overcome by gentle persuasion and persistence; very ill patients were tube-fed.

The diets used in these trials consisted of Soy-Ogi for the test group and a standard commercial infant food, Lactogen, made from dried cow's milk, for the control group. The compositions of the diets are shown in Table 2. Since Soy-Ogi has a higher protein content than Lactogen, glucose was added to the former and the diets were then mixed with water so that each provided equal quantities of protein and calories.

RESULTS AND DISCUSSION

The nutrient composition of Soy-Ogi is compared with those of a number of branded infant foods in Table 2. Some amino acid profiles are shown in Table 3. Mean values for the biological evaluation of the protein quality of Soy-Ogi, Lactogen and casein diets are given in Table 4.

Except for deficiencies in vitamins and in iron, which can be corrected by fortification, Soy-Ogi presents a nutrient profile and protein score which compare favourably

Vol. 26

Nutritive value of maize-soya mixture

with those of branded commercial infant foods. About 70% of its lysine content is available, indicating a good biological value.

Its NdpCal % is estimated at 10.80 using the corrected NPU value. This value is well above the minimum of 8 recommended for children, and therefore Soy-Ogi should be

Table 2. *Percentage composition of Soy-Ogi as compared with other protein foods*

Constituent	Soy-Ogi (Nigeria)	Pro-Nutro (South Africa)	Inca- parina (Guate- mala)	Farlene (Nestle)	Complan (Glaxo)	Lactogen (Nestle)	Corn-soya meal (America)	Nestum (Nestle)	Farex (Glaxo)
Protein (N x 6.25)	20.3	22.0	27.5	25.0	31.0	16.1	20.9	14.0	14.2
Moisture	4.7	—	—	4.0	—	3.0	9.5	5.0	6.5
Fat	6.3	12.9	4.2	5.5	16.0	24.2	1.2	2.0	2.5
Ash	3.0	4.6	—	4.0	—	3.6	2.1	3.5	2.1
Calcium	0.43	0.46	0.66	0.78	0.83	—	0.40	0.35	0.89
Phosphorus	0.44	0.48	0.70	—	0.78	—	0.44	0.45	0.68
Carbohydrate	63.7	56.5	—	60.5	—	52.4	61.0	75.5	72.7
Energy (kcal/g)	4.00	4.13	3.70	3.90	—	4.95	3.58	3.66	3.57

Table 3. *Amino acid pattern (mg/g) of some infant foods*

Amino acid	Soy-Ogi	Lactogen	Corn-soya meal (America)	FAO (1957) (reference protein)
Tryptophan	2.10	2.18	2.40	2.88
Threonine	7.63	7.15	—	5.76
Isoleucine	8.85	9.89	—	8.64
Leucine	17.69	15.21	—	9.78
Lysine	9.46	12.05	9.60	8.64
Methionine	2.75	3.79	3.61	8.64
Cystine	3.05	1.39	2.80	—
Phenylalanine	10.68	7.51	—	5.76
Valine	9.76	10.64	—	8.64
Histidine	4.88	4.08	—	—
Serine	9.76	9.14	—	—
Protein score	93	78	89	100

Table 4. *Comparative biological evaluation of some food proteins*

(Mean values for diets containing 10% protein)

Analysis	A Casein	B Soy-Ogi	C Lactogen
Protein efficiency ratio:			
Experimental*	2.6 ± 0.37	2.3 ± 0.21	2.2 ± 0.62
Corrected (using standard value for casein)	2.5	2.2	2.1
Net protein utilization:			
Experimental	85.5	83.6 (standard) 69.5 ± 3.79 (operative)*	86.6
Corrected (using standard value for casein)	72.0†	70.4 (standard) 58.5 (operative)	72.9
Nitrogen digestibility coefficient:			
Experimental*	96.6 ± 0.61	91.6 ± 2.15	93.1 ± 2.59
Biological value:			
Experimental*	88.5 ± 3.63	91.3 ± 2.86	93.0 ± 2.45

* Mean values with their standard errors.

† Value of WHO (1965).

I. A. AKINRELE AND CHARITY C. A. EDWARDS

1971

a suitable food for weaning children. The results of the long-term feeding tests indicated that the livers of rats fed on Soy-Ogi were normal and the successful feeding of the rats solely on Soy-Ogi through a complete life cycle which resulted in normal litter sizes, birth weights and growth rates provided further evidence that potent toxic residues were absent from the food.

In the children, the response to dietary treatment was measured in terms of acceptance and tolerance of the food, disappearance of oedema and apathy, and weight changes. After the first 5 d, the Soy-Ogi diet was found to be as acceptable as the Lactogen diet, but the initial anorexia was more easily overcome with the Lactogen diet. This

Table 5. *Response of the children to dietary treatment for 21 d*

Child	Sex	Age (years)	Diagnosis	No. of vomits	Frequency of diarrhoea (no. of times)	Day on which oedema disappeared	Day on which apathy disappeared	Time to attain minimum weight (d)	Rise in serum proteins (g/100 ml)
Soy-Ogi group									
A.S.	♀	2	Moderate kwashiorkor	0	0	7th	16th	7	1.58
S.J.	♀	2.25	Moderate kwashiorkor	3	0	15th	21st	18	0.97
T.Y.	♂	1.5	Severe kwashiorkor	1	0	20th	23rd	21	1.64
Sal.J.	♂	2.5	Moderate kwashiorkor	2	0	11th	21st	9	1.38
Ay.S.	♂	1.5	Severe kwashiorkor	1	0	13th	20th	13	1.88
Lactogen group									
O.F.	♂	1.5	Severe kwashiorkor	4	0	17th	21st	7	2.35
S.O.	♂	2	Severe kwashiorkor	0	1	11th	20th	11	3.44
O.O.	♀	1.5	Moderate kwashiorkor	0	7	6th	20th	2	1.99

may have been mainly because the Lactogen diet for the first 3 d was a thin fluid without pap. The Soy-Ogi diet, no matter how thinly it was prepared, always set into a thin gel on standing. Such semi-solids are less readily taken than fluids by sick children. Vomiting was a common problem with both diets, especially during the first few days of treatment. Not all the vomiting could be attributed to dietary intolerance (Table 5). The temperature and manner in which the food was administered seemed to affect tolerance. When the food was given cold and in a hurried manner the patient was more prone to vomiting.

Diarrhoea occurred only in the Lactogen group, probably because many Nigerian children seem to be intolerant of lactose.

Oedema in the Soy-Ogi group subsided in one patient at the end of the 1st week, and in the others between the 2nd and 3rd weeks. In the Lactogen group oedema disappeared in one child in the 1st week and in the two others in the 2nd and 3rd weeks.

Disappearance of apathy and increasing interest in the environment became noticeable in all children in both groups in the 3rd week. This means that clinically the patients fed on Soy-Ogi showed as good a response as those fed on Lactogen.

The curves of changes in weight, total serum proteins and albumin concentrations over a period of 28 d treatment, derived from two typical patients from both groups, are shown in Fig. 1. It will be seen that there was greater weight loss in the patients on Soy-Ogi than in those on Lactogen. After the initial loss in weight, the Lactogen group gained more weight and at a faster rate than the Soy-Ogi group, which is in

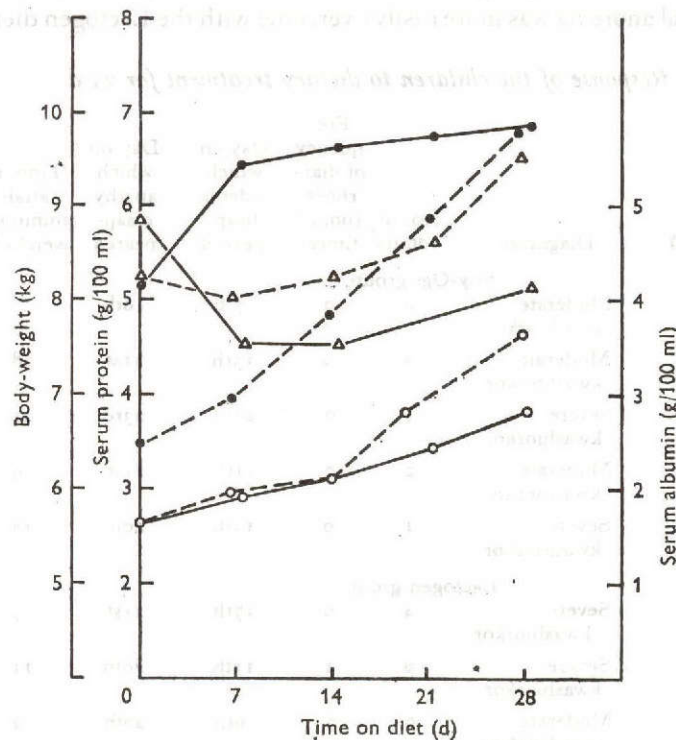


Fig. 1. Recovery patterns of kwashiorkor patients during dietary therapy. ●—●, total serum protein (Soy-Ogi); ○—○, serum albumin (Soy-Ogi); Δ—Δ, body-weight (Soy-Ogi); ●---●, total serum protein (Lactogen); ○---○, serum albumin (Lactogen); Δ---Δ, body-weight (Lactogen).

agreement with the observations of Dean (1952). Increases in total serum protein concentration were also greater in the children fed on Lactogen than in those on Soy-Ogi, as was also found by Arroyave, Wilson, Béhar & Viteri (1961). At the end of a month's treatment two of the patients on Soy-Ogi still had serum protein levels below normal. Serum albumin concentration rose steadily in all the children, but the rate of increase was higher in the patients on Lactogen than in those on Soy-Ogi.

By the 21st day of treatment serum albumin concentrations had returned to the normal level of about 3 g/100 ml in the Lactogen group. This indicates that Lactogen may be more efficient in promoting serum protein recovery than Soy-Ogi, although the values obtained with the latter diet were acceptable.

I. A. AKINRELE AND CHARITY C. A. EDWARDS 1971

Only eight children out of fifteen successfully completed 28 d of the prescribed treatment. Four patients (two in each group) died during the period of treatment, and three others were discharged because of early recovery.

Conclusion

This study has suggested that Soy-Ogi is a complete protein food suitable for weaning children. It has also been established that it is acceptable, free from toxic residues, and could be well tolerated by children. The limited trials on children also suggest that it has the advantage of minimizing the frequency of diarrhoea often observed with a milk diet. However, when compared with Lactogen, it is less efficient for the treatment of kwashiorkor in bringing about maximum weight gains and rapid increase in the serum albumin concentration.

Table 6. *Relative cost of Soy-Ogi and other infant foods*

Infant food	New pence/ kg	Protein content (%)	New pence/ 20 g protein
Soy-Ogi* (Nigeria)	30	20.4	3.0
Incaparina* (Guatemala)	21	27.5	1.6
Pro-Nutro* (S. Africa)	21	22.0	2.0
Incaparina* (Mexico)	10	27.5	0.8
Nestum (Cereal)	79	14.0	11.4
Farex (Cereal)	79	14.2	11.2
Lactogen (Milk)	54	16.9	6.4
Complan (Milk)	138	31.0	9.0
Humanized Trufood (Milk)	62	14.50	8.6
Farlene (Cereal)	123	25.00	9.8

* Vegetable protein mixtures.

Because of the relatively low cost of Soy-Ogi in comparison with other weaning foods (Table 6), and the limited purchasing power of the low-income group, Soy-Ogi should be considered as the food of choice for the prevention and cure of mild and moderate protein malnutrition. In severe kwashiorkor which may require hospital treatment, Soy-Ogi supplemented with a milk diet is preferable.

The authors are grateful to the US Department of Health, Education and Welfare, Bethesda, Maryland, who arranged for the vitamin and elemental analyses of Soy-Ogi by the Wisconsin Alumni Research Foundation, and to the Tropical Products Institute, London for the amino acid analyses. We also wish to acknowledge the support given to us through clinical management of the hospital patients by the staff of the Institutes of Child Health and the Paediatric Department of the Lagos University Teaching Hospital.

REFERENCES

- Akinrele, I. A. (1966). A biochemical study of the traditional method of preparation of Ogi and its effects on the nutritive value of corn. PhD Thesis, University of Ibadan.
- Akinrele, I. A., Adeyinka, O., Edwards, C. C. A., Olatunji, F. O., Dina, J. A. & Koleoso, O. A. (1970). *The Development and Production of Soy-Ogi*. F.I.I.R. Research Report no. 42. Lagos, Nigeria: Federal Ministry of Industries.

Vol. 26 *Nutritive value of maize-soya mixture*

- Arroyave, G., Wilson, D., Béhar, M. & Viteri, F. (1961). *Publs natn. Res. Coun., Wash.* no. 843.
 Association of Official Agricultural Chemists (1965). *Official Methods of Analysis* 10th ed. Washington, D.C.: Association of Official Agricultural Chemists.
 Brock, J. F. (1961). *Proc. int. Congr. Nutr. v. Washington* Vol. 20, p. 61.
 Carpenter, K. J. (1960). *Biochem. J.* 77, 604.
 Christensen, R. E., Beckman, R. M. & Birdsall, J. J. (1968). *J. Ass. off. agric. Chem.* 51, 1003.
 Collis, W. R. F., Dema, J. & Omololu, A. (1962). *Trop. geogr. Med.* 14, 140.
 Dean, R. F. A. (1952). *Br. med. J.* ii, 791.
 FAO (1957). *F.A.O. nutr. Stud.* no. 16.
 Hawk, P. B., Oser, B. L. & Summerson, W. H. (1954a). *Practical Physiological Chemistry* 13th ed., p. 602. London: J. and A. Churchill.
 Hawk, P. B., Oser, B. L. & Summerson, W. H. (1954b). *Practical Physiological Chemistry* 13th ed., p. 1375. London: J. and A. Churchill.
 Miller, D. S. & Payne, P. R. (1959). *Br. J. Nutr.* 13, 501.
 Miller, E. L. (1967). *J. Sci. Fd Agric.* 18, 381.
 Mitchell, H. H. (1924). *J. biol. Chem.* 58, 873.
 Moore, S. (1963). *J. biol. Chem.* 238, 235.
 Morley, C. D. (1958). *W. Afr. med. J.* 7, 34.
 National Research Council (1962). *Publs natn. Res. Coun., Wash.* no. 990.
 Osborne, T. B., Mendel, L. B. & Ferry, E. L. (1919). *J. biol. Chem.* 37, 223.
 Pellett, P. L., Kantarjian A. & Jamalian, J. (1969). *J. Sci. Fd Agric.* 20, 229.
 Platt, B. S., Miller, D. S. & Payne, P. R. (1961). In *Recent Advances in Human Nutrition* p. 351 [J. F. Brock, editor]. London: Churchill.
 Williams, C. D. (1933). *Archs Dis. Childh.* 8, 423.
 WHO (1965). *Tech. Rep. Ser. Wld Hlth Org.* no. 301.

Appendix IV

PAG STATEMENT ON THE PROMOTION OF PROCESSED PROTEIN FOODS FOR VULNERABLE GROUPS

Background

To aid in developing this statement the PAG convened a meeting of leading pediatricians and representatives of the food industry in Paris, France, 16 and 17 June 1972. In its deliberations this group took note of a preliminary meeting of pediatricians and the food industry which was convened in Bogota, Colombia, in November 1970 by the Pan American Health Organization, World Health Organization and UNICEF, at the suggestion of the PAG. Note was also taken of the recommendations of a workshop on nutrition for "new urban families" held by the International Pediatrics Association in Vienna, 28 August 1971. Among the topics discussed at the June 1972 meeting were: purchasing power of African and Asian consumers in relation to meeting the nutritional needs of the child through commercial channels; problems facing governments in stimulating the supply of nutritious foods and supplements for infants and young children; role of industry in providing low-cost, nutritious foods for infants and young children and problems related to marketing and promotion practices of foods for infants and young children.

Summary of Statement

The statement emphasizes the critical importance of breast feeding under the socio-cultural and economic conditions which prevail in many developing countries. Infants of more affluent socioeconomic groups in industrialized and developing countries, in the absence of breast feeding, suffer no disadvantage when fed properly, constituted and hygienically-prepared processed commercial formulas. However, the early abandonment of breast feeding by mothers among lower socioeconomic groups can be disastrous to infants, particularly when this occurs without knowledge of the resources and hygienic practices necessary to feed their infants adequately and safely with breast milk replacements. Under such circumstances and where animal milk as a supplementary protein resource is expensive or in short supply, an important function of the food industry, in close cooperation with governments and physicians, should be the development and marketing of relatively low-cost nutritious protein foods which fulfil the nutritional role of milk among more affluent societies.

Recommendations

The statement includes recommendations to governments and the United Nations agencies, to pediatricians and other physicians caring for children, and to industry. Recommendations to governments encourage support for nutrition surveys, rationalization of legislation, reduction of fiscal burdens on processed foods of high nutritional value, consideration of subsidies for supplementary feeding programmes to vulnerable groups, the use of mass media for education and promotion programmes, and collaboration with industry in planning for nutritional improvement. The recommendation is made for the U.N. agencies to encourage development of contacts between governments, medical personnel and industry, and to assist further training programmes in development and marketing nutritionally desirable foods.

In its recommendations to pediatricians and other physicians caring for children, the statement lays particular emphasis on education and training of health personnel, the need for support to ventures to introduce protein-rich foods of plant origin at the lowest feasible costs, and the exchange of information on trends and new developments in child feeding. Industry is urged to participate in resolution of nutritional problems in developing countries to give greater attention to adequate training of personnel on questions of child health, and to exercise care and restraint in matters concerning label design and promotion of infant foods.

ACTIVITIES OF THE WORLD BANK GROUP IN THE FIELD OF PROTEIN

by Mr. Harold Graves, Washington, D. C.

1. The Bank attaches great importance to the protein question in particular and to nutrition in general. Mr. McNamara covered both extensively in his address to the Board of Governors of the World Bank on September 27, 1971, and in his address to the United Nations Economic and Social Council on October 28, 1971.

2. At least four different activities of the Bank (and of its affiliate, the International Development Association) during 1971 were of interest from the standpoint of protein. They were: 1) lending for projects which will have the effect of increasing protein availability in developing countries; 2) participation in the PAG; 3) steps toward the establishment of a nutrition division in the Bank; and 4) support for international agricultural research which will increase protein availability.

3. During the period being covered by the Secretary-General in his own consideration of the protein question - the calendar years 1970 and 1971 - the Bank and IDA made 18 loans and credits in 15 countries to help finance projects which should increase the production of food with high protein content. Of these transactions \$8.9 million worth were made to benefit fisheries production in Indonesia, Panama and Tunisia; \$4.4 million were made to benefit dairy development in Ethiopia; and \$134.0 million were made to benefit livestock production in Bolivia, the Dominican Republic, Ecuador, Guatemala, Guyana, Honduras, Jamaica, Korea, Mexico, Turkey and Uruguay.

4. Toward the end of 1971, the Bank became a sponsor of and financial contributor to the FAO/WHO/UNICEF Protein Advisory Group, which thereafter became known as the Protein Advisory Group of the United Nations System. The Bank thereby became the first agency to respond to recommendations for broadening the sponsorship of PAG.

5. At about the same time, the Bank began a series of consultations with the United Nations

and with the specialized agencies to learn more about their activities in the field of protein and nutrition, with the view to the cooperative development of Bank and IDA activities in this field. (This consultation was completed in January 1972; and, as a sequel, the Bank is establishing a unit in one of its operational departments which will be concerned with financial and technical assistance to nutrition projects and programming in developing countries.)

6. Together with UNDP and FAO, the Bank is a sponsor of the Consultative Group on International Agricultural Research, whose activities have a bearing on the protein question; the Bank serves as Chairman of the Group. The Consultative Group is composed of 27 members. Besides the sponsors, there are three private organizations, the Ford, Rockefeller and Kellogg Foundations; twelve donor governments, Belgium, Canada, Denmark, France, Germany, Japan, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States; three regional development banks, the African Development Bank, the Asian Development Bank and the Inter-American Development Bank; and the International Development Research Center, an autonomous organization financed by the Government of Canada. In addition, the five major developing regions of the world participate in the Consultative Group through representative countries designated for a two-year term by the membership of FAO.

7. A meeting of the Consultative Group in December 1971 had the opportunity to consider the recommendations of its Technical Advisory Committee for financial support to ongoing or new international research programs in 1972. Members of the Group agreed, among other things, to give financial support to existing international centers of agricultural research.

8. One of these is the International Wheat and

Maize Improvement Center, situated in Mexico. A current special program of the Center, supported by UNDP, is devoted to the development of high-lysine maize, which would greatly increase protein availability and utilization among peoples for whom maize is a staple of diet.

9. Three other centers supported by grants from individual members of the Consultative Group: the International Potato Center (CIP), in Peru; the International Center for Tropical Agriculture (CIAT), situated in Colombia; and the International Institute for Tropical Agriculture (IITA), in Nigeria; have programs which are of interest from the standpoint of protein availability. CIP is working, for example, to increase the adaptability of the potato to new ecological zones, CIAT is working to improve the output and quality of beef, swine and field beans, and IITA is seeking to develop higher-yielding varieties of grain legumes, specifically cowpeas, soybeans, pigeon peas and lima beans.

10. A new center which will be established under the sponsorship of the Consultative

Group to conduct research to improve farming systems in semiarid tropical zones likewise promises to increase protein availability. This center, to be called the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), will be established in India. At the outset, it will be concerned, among other crops, with two legumes of high protein value; namely, chick peas and pigeon peas.

11. The Consultative Group in 1971 also set in motion a number of studies. Two are intended to develop recommendations concerning research to improve the output of livestock, and especially of beef, in Africa; and this, too, would materially add to the resources of protein in developing countries. The Group's Technical Advisory Committee has signified its intention of studying the potentialities of aquaculture as a subject of international research, and will be making an inquiry to determine what part international research might play in helping to develop higher-yielding, higher-protein varieties of legumes. The presence of these studies on the Committee's agenda suggests that the interest of the Consultative Group in protein not only will continue but may intensify.

DDI : G/73/57

INDUSTRY COOPERATIVE PROGRAMME
FAO/INDUSTRY JOINT TASK FORCE ON PROTEIN FOOD DEVELOPMENT
PROJECT PROPOSAL FOR SRI LANKA

SUMMARY

This document presents the case for a project designed to improve the food and nutrition situation in Sri Lanka, to be undertaken by the FAO/ICP Joint Task Force on Protein Food Development. The project comprises large-scale production of soybeans (on lands presently not utilized for agricultural production), and processing the crop into the two conventional end products, i.e. soymeal for cattle feed and oil for human consumption. Parallel to this conventional processing of the soybean, production of such by-products as full-fat soy flour and soymilk for human consumption will be undertaken for market testing with a view to expansion in their production according to market demands.



Rome, August 1973



TABLE OF CONTENTS

- Preface : Letter from Secretary, Ministry of Agriculture and Lands, Sri Lanka	
- Background	1
- The Present Food and Nutrition Situation in Sri Lanka	1
- The Case for Large-Scale Production and Processing of Soybean in Sri Lanka	2
- Solutions to the Critical Food Supplies based on Other Food Crops	7
- An Analysis of the Case for Large-Scale Production and Processing of Soybean in Sri Lanka	10
- Proposed Action by JMT	13
Annex I : "Produce or Perish"	16
Annex II : "It's Meat, Milk and Vegetable"	17
Annex III : "Mock Milk for India"	18
Annex IV : Memorandum, Central Agricultural Research Institute, C.A.R.I., Sri Lanka	20
Annex V : Report on a Visit to Colombo, Sri Lanka, 18-20 February 1973, Marcel Ganzin	22
Annex VI : Sri Lanka : Intelligence Dossier	26

මගේ අංකය
எனது இல.
My No.

ඔබේ අංකය
உமது இல
Your No.

දුරකථන
தொலைபேசி
Telephones

26346

26347

විද්‍යුත් පණිවිඩ : "සෙක්‍රිලන්ඩ්"
சந்தி : "செக்ரிலண்ட்"
Telegrams: "SECMINLANDS"



කෘෂිකම් හා ඉඩම් අමාත්‍යාංශය

காணி, விவசாய அமைச்சு

MINISTRY OF AGRICULTURE AND LANDS

315, වොක්‍ෂෝල් වීදිය, න. ප. 569, කොළඹ 2

315, வொக்ஷால் வீதி, த. பெ. இல. 569, கொழும்பு 2

315, VAUXHALL STREET, P. O. Box 569, COLOMBO 2

දිනය
திகதி
Date

6th August, 1973.

My dear Dr. Aref,

Reference the discussion that I had with you during your mission in Sri Lanka, I wish to confirm that this Ministry will be very interested in foreign collaboration both in the production and processing of Soya bean. We would make available whatever resources that we have for such a project after we have agreed on a definite course of action.

Yours sincerely,

Mahinda Silva

Mahinda Silva

S/A. & L.

Dr. M.M. Aref,
FAO,
Rome.

TABLE OF CONTENTS

- Preface : Letter from Secretary, Ministry of Agriculture and Lands, Sri Lanka	
- Background	1
- The Present Food and Nutrition Situation in Sri Lanka	1
- The Case for Large-Scale Production and Processing of Soybean in Sri Lanka	2
- Solutions to the Critical Food Supplies based on Other Food Crops	7
- An Analysis of the Case for Large-Scale Production and Processing of Soybean in Sri Lanka	10
- Proposed Action by JTF	13
Annex I : "Produce or Perish"	16
Annex II : "It's Meat, Milk and Vegetable"	17
Annex III : "Mock Milk for India"	18
Annex IV : Memorandum, Central Agricultural Research Institute, C.A.R.I., Sri Lanka	20
Annex V : Report on a Visit to Colombo, Sri Lanka, 18-20 February 1973, Marcel Ganzin	22
Annex VI : Sri Lanka : Intelligence Dossier	26

මගේ අංකය
எனது இல.

My No.

ඔබේ අංකය

உமது இல

Your No.

දුරකථන

26146

தொலைபேசி

Telephones

26147

පිදිලි පණිවිඩ : "නිවැසියන්"

சந்தி : "காணிச்செயலாளர்"

Telegram: "SECMINLANDS"



කෘෂිකම් හා ඉඩම් අමාත්‍යාංශය

காணி, விவசாய அமைச்சு

MINISTRY OF AGRICULTURE AND LANDS

315, වොක්ෂාල් වීදිය, නැ. පෙ. 569, කොළඹ 2

315, வொக்சோல் வீதி, த. பெ. இல. 569, கொழும்பு 2

315, VAUXHALL STREET, P. O. Box 569, COLOMBO 2

දිනය

திகதி

Date

6th August, 1973.

My dear Dr. Aref,

Reference the discussion that I had with you during your mission in Sri Lanka, I wish to confirm that this Ministry will be very interested in foreign collaboration both in the production and processing of Soya bean. We would make available whatever resources that we have for such a project after we have agreed on a definite course of action.

Yours sincerely,

Mahinda Silva

Mahinda Silva

S/A. & L.

Dr. M.M. Aref,

FAO,

Rome.

I. BACKGROUND

A. The Present Food and Nutrition Situation in Sri Lanka

1. The socio-economic survey conducted in Sri Lanka in 1969-70 showed that 50 per cent of the population had an unsatisfactory calorie intake and about 40 per cent had a low protein intake.
2. The situation has since deteriorated and there is at present great concern over the availability of food supplies to the people of Sri Lanka. Due to economic constraints, the Government will most probably be forced to discontinue the importation and consequently the free distribution of rice to the low-income group (non-taxpayers) by the end of 1973.
3. Due to shortage of animal feed, the Government have banned all exports of copra; consequently cutting down the country's foreign exchange earnings and its capacity to import rice. Although the magnitude of the cattle feed deficit necessitating this drastic action by the Government is not known exactly, the action itself indicates the gravity of the situation.
4. Flour imports on credit from France are now being negotiated by a Government team visiting that country. Here again there is no exact information on the amounts of flour to be imported from France, but the mere fact that such a deal is being negotiated points out the critical situation with regard to food supplies in Sri Lanka as well as the unavailability of funds with which to meet the crisis by importation.
5. The concern over future food supplies is well illustrated by the editorial "Produce or Perish" appearing in the Ceylon Daily News on 3 August 1973, and other Government declarations (see Annex I).
6. The food and nutrition situation in Sri Lanka seems to be rapidly heading beyond mere concern over unsatisfactory calorie or protein intake for this

or that portion of the population. There is fear and anxiety within the Government that the country is heading towards a general shortage of food supplies which might well lead to famine.

B. Possible Solutions to the Critical Food Supply Situation

The writer has looked at all possible solutions to the present food supply situation in Sri Lanka, whether based on existing food crops, i.e. rice, coconut and cassava, or on new potential food crops, i.e. maize, sorghum and soybean. Only the soybean stands out as the one crop for which intervention by the FAO/ICP Joint Task Force on Protein Food Development seems to be possible and profitable. The case for large-scale production and processing of soybean in Sri Lanka is, therefore, presented below. Solutions based on existing or other potential food crops will be discussed later.

1. The case for large-scale production and processing of soybean in Sri Lanka

1.1 The Need. There is an urgent need for an additional source of cattle feed and edible oil in Sri Lanka. The recent Government decision to ban all exports of copra, at the expense of losing badly needed foreign currency, clearly indicates the critical situation the country is now facing. Milk supplies meet only one-third of the requirements of the population, yet it is not possible to substantially increase the milk herds, mainly due to lack of cattle feed. Increase in poultry production has been halted by scarcity of poultry feed.

It would, therefore, seem quite evident that the introduction of soybean into Sri Lanka would :

- 1.1.1. Meet the existing deficit of cattle feed (unfortunately undetermined); or
- 1.1.2. Meet the local needs for cattle feed, thus allowing resumption of copra exportation to its established markets, and supplying foreign exchange for importation of other foods; or

1.1.3. Supply a well-known commodity for exportation and foreign exchange earnings.

1.2 The potential. Extensive experimentation with soybean production is at present being carried out in four agriculture research centres in Sri Lanka. Two of these were visited by the writer: the Central Agricultural Research Institute in Gannoruwa, Peradeniya (Kandy), and the Agricultural Research Station in Maha Illuppallama. Based on the results obtained so far, there is universal agreement among personnel involved in these experiments, headed by W.G. Golden, Jr. of IRRI - Ford Foundation Sri Lanka Rice Project, that large-scale production of soybeans in Sri Lanka can be very successful. Both on irrigated lands and in the Dry Zone, most of the soybean varieties tested do very well when the seeds are inoculated with an effective Rhizobium japonicum strain. (This was expected on land where soybean had not previously been planted and constitutes no constraint to large-scale production of the bean. No other constraints to soybean cultivation in Sri Lanka have been reported.) There are naturally differences in yields among varieties, but high-yielding varieties (Ca 3,000 lb.) are being identified. Fertilizer, spacing, planting dates, etc., trials are well under way and the results should be available soon.

Other production trials conducted by Ceylon Tobacco Co. Ltd. support the findings at Governmental research stations. Small-scale trials by schools, foreign aid agencies and private individuals in various parts of the country also support the findings of the more organized research. It is the writer's conviction that large-scale production of soybean in Sri Lanka can be as economically profitable as in any place else in the

world. It is worth mentioning here that a Japanese delegation is expected to arrive in Sri Lanka about mid-August to negotiate with the Government the possibilities of large-scale production of soybean for direct export to Japan. The Japanese are apparently trying to diversify their sources of soybean supply after the recent embargo the USA placed on soybean exports.

1.3 Government Interest. The Ministry of Agriculture and Lands is in charge of the Government research on soybean production mentioned above. The Permanent Secretary of this Ministry has indicated during discussions with this writer that the Ministry will consider with favour the placing of (approximately 20,000 acres of) irrigated lands at the disposal of any international industry wishing to enter into agreement with the Government on large-scale production and processing of soybeans. As far as Dry Zone lands are concerned, there does not seem to be a limit (up to 500,000 acres) on land availability for such an enterprise. (See attached letter from Permanent Secretary of Agriculture and Lands.)

1.4 Industry's Interest.

1.4.1. Mr. T.W. Elliott, Chairman and Managing Director of Lever Brothers (Ceylon) Ltd., indicated to this writer that his company would be very interested in large-scale soybean production and processing in Sri Lanka. He was quite frank about his company's lack of agricultural production know-how but saw no difficulty in including the Ceylon Tobacco Co. Ltd., which is already involved in soybean production, in the proposed enterprise. The Government would supply the land, Ceylon Tobacco Ltd. would be in charge of soybean production and Lever Brothers (Ceylon) Ltd. would be in charge of processing the beans, mainly to produce cattle feed and oil. Parallel to this activity, Lever Brothers (Ceylon) Ltd. would be interested in the production of soymilk powder (see paragraph 1.6 below). It is worth

mentioning here that Lever Brothers (Ceylon) Ltd. is already producing small experimental lots of liquid soymilk in a make-shift plant. So far two 400-pint lots of soymilk were produced. The soymilk is shipped upon preparation to the Sri Lanka Milk Board plant in Colombo where it is bottled and sterilized. The first lot was used for experimental purposes, i.e. taste testing for acceptability, flavouring, sugaring and mixing with skim milk. The second lot was sugared (10%), flavoured (strawberry), mixed with skim milk at a ration of 1 : 1, then bottled and sterilized. It was sent to a maternity home in Kandy where it was distributed to children 1-5 years old. Acceptability was good. Trials will continue on this limited scale.

1.4.2. Mr. S.V. Wanigasekera, Chairman, Ceylon Tobacco Co. Ltd. agrees in principle with large-scale production and processing of soybeans in Sri Lanka. He was, however, somewhat hesitant about the venue for the large-scale production. He felt that present trends of Government may favour involving the small farmers through a labour intensive scheme. This would be a long-term process requiring too much administration and management and might not necessarily meet the demands of a large-scale processing industry before some time. He would personally prefer to see large-scale soybean production on large estates owned by the Government but operated by his company under a fully mechanized system. It was suggested by the writer that the Government might be persuaded to accept this latter approach to first establish a viable industry based on large-scale production and processing of soybeans. Once this industry is established, it would be possible then to plug into the system the produce from a labour-intensive scheme for soybean production by small farmers.

Mr. Wanigasekera seemed to have some reservations about joining Lever Brothers, but no basic objection. It appeared that he might prefer to rather join forces with Japanese firms for such a venture.

1.5. Public Interest. There seems to be a general awareness in Sri Lanka of the value of soybean as a crop which could materially add to the food supplies of the country. There was hardly a day during the writer's short stay in the country when the newspapers did not carry some story about soybean (see Annex II).

1.6. Soymilk Powder. The soymilk powder developed by the writer in 1970 for the Canadian Hunger Foundation (see Annex III) for possible introduction to India was described to the Permanent Secretary of Agriculture on 28 July 1973. On that day the Prime Minister of Sri Lanka was proceeding to Canada for the Commonwealth Heads of State and Prime Ministers' Meeting. A note on this soymilk powder was submitted to the Prime Minister for further discussions with the Canadian authorities with the view to requesting assistance from Canada in establishing a soymilk powder pilot plant in Sri Lanka. On the following day a cable was sent from the national FFHC Committee in Sri Lanka to the Canadian Hunger Foundation confirming the request. The Canadian Hunger Foundation replied announcing that their representative will visit Sri Lanka on 13 August to discuss the matter with the Government.

2. Solutions to the Critical Food Supplies Based on Other Food Crops

2.1 Existing food crops

2.1.1. Rice. A Government/Ford Foundation project, implemented by the International Rice Research Institute (IRRI) of the Philippines, is concerned with the increase of rice yields and the introduction of high-protein rice varieties into Sri Lanka. The work is being carried out at the Central Agricultural Research Institute, Gannoruwa, Peradeniya. The project is also developing multiple cropping patterns which, when ultimately adopted on a large scale, could result in increasing rice supplies in the country. In addition, improvement of rice processing will be studied through a pilot rice milling unit of $\frac{1}{2}$ ton per hour capacity in Gannoruwa, Peradeniya (Kandy).

An FAO/UNDP project entitled "Assistance for the Development Centres" CEI/71/531 has just become operational and it is expected that its activities will be coordinated with those of the IRRI implemented project.

At present, the Paddy Marketing Board buys about half the paddy produced in the country, the other half being retained by the growers. The majority of the quantity purchased by the Board is also processed by the Board then sold to the Food Commissioner's Office at a fixed price. The latter stores the rice in its own facilities prior to distribution to retail outlets. It was hoped that the rice retained now by the growers will be reduced to only 3 per cent of production for seed and 14 per cent for consumption, but indications are that the growers tend to hoard the rice at present because of food shortages and price policies.

No activity suitable for consideration by the FAO/ICP JTF can be envisaged in the area of rice production and/or processing.

2.1.2. Coconut. This is the second most important food crop after rice.

Total consumption in Sri Lanka is estimated at 125 nuts equivalent per capita per year, mainly in the form of fresh coconuts and coconut oil.

A considerable amount of research has been carried out in different parts of the world on utilization of coconut as a possible constituent of protein-rich foods; but none of the protein-rich foods put on the market contained coconut. A recent study carried out by the Tropical Products Institute for the PAG identified sixty-nine protein-rich food schemes around the world, including schemes which had been terminated. None of the products described contained coconut.

The amino acid composition of coconut protein shows that it is deficient in lysine, methionine and threonine. The ratio of essential amino acids nitrogen to total nitrogen in coconut protein is lower than in animal proteins, though the coconut protein itself compares favourably with peanut protein and similar proteins of plant origin. The main problem in using fresh or dried coconut meat in human feeding, however, is its fibre content which interferes with digestibility and nitrogen retention. This is the reason why attempts have been made to "wet process" fresh coconuts to produce oil and protein flour suitable for human consumption. There are about nine or ten major wet processes, but none of them is in commercial use. The main reason for this appears to be that the recovery of oil from the wet processes is at best 10 to 15 per cent lower than the yield of oil obtained from the processing of copra. It is thus concluded that the state of the art of coconut processing for the production of coconut oil and coconut protein does not at present warrant serious consideration by the FAO/ICP Joint Task Force On Protein Food Development.

2.1.3. Cassava. This is undoubtedly the third largest food crop in Sri Lanka, though exact figures on area under cultivation and production are not available. Estimates put the area under cultivation at 70,000 acres mostly under coconut trees. Average yield per acre is probably not more than 0.5 ton with a starch extraction ratio of about 20 per cent. Total production of cassava starch is, therefore, some 7,000 tons per year.

A project sponsored by the Overseas Development Administration, U.K., and implemented by the Tropical Products Institute, London, at the Ceylon Institute for Scientific and Industrial Research (CISIR) in Colombo, aims at the utilization of cassava starch to replace wheat flour up to 10 per cent in bread manufacture. The resulting composite flour would lower the protein content of the bread by 1 per cent and protein supplementation would be necessary. Industrial intervention in this area at the present stage of development is not recommended.

2.2. New Food Crops

2.2.1. Maize. Efforts are being made in Sri Lanka at present to introduce the high-protein maize, opaque-2. With large-scale production of this food crop and its consumption by the population a general improvement in the nutritional status of the people will undoubtedly be achieved.

No involvement by the FAO/ICP JTF can, however, be envisaged in this area.

2.2.2. Sorghum. This is also being introduced in Sri Lanka and will certainly contribute to the food intake of the population. Again, no involvement by the FAO/ICP JTF can be envisaged.

2.2.3. Soybean. This is the third crop being introduced in Sri Lanka, and because of the need for relatively sophisticated industrial processing of the bean before utilization of the end products by the consumer is possible, involvement of the FAO/ICP JTF is clearly indicated. The case for large-scale production and processing of the soybean in Sri Lanka has been presented in a previous section. There are still many questions to be answered before a decision regarding involvement of the FAO/ICP JTF can be reached and an attempt to analyse these outstanding questions will be made in the following section.

C. An Analysis of the Case for Large-Scale Production and Processing of Soybeans in Sri Lanka

- 1.. The writer is convinced from his short visit to Sri Lanka and discussions with different Governmental and non-Governmental sources that there is urgent need for increasing the country's food supplies within 2-3 years. If prompt and concentrated action is not taken, there are good reasons to believe that starvation and even famine would be a problem for a large part of the people.
2. The solution to Sri Lanka's food supplies problem must come from within the country. A tremendous increase in the country's exports might allow the Government to import foods to meet the critical situation, but this is not foreseen with present export commodities.
3. The alternative then would be increased food production in the country. Rice production could be increased and efforts are being made in this connection. Maize is being introduced. Cassava production can possibly be increased. But none of these crops is a good source of protein, and none seems to be suitable for any activity to be sponsored by the FAO/ICP JTF. No feed industry to sustain a large animal industry can be based on these crops alone without direct competition to human food supplies. Increased coconut production and processing could be instrumental in the establishment of a feed industry, but this is a

long term process where involvement of the FAO/ICP JTF is not envisaged as copra processing capabilities existing today in Sri Lanka are not fully utilized.

4. It would, therefore, seem evident that the only way in which the FAO/ICP JTF can help in alleviating the critical food supply situation in Sri Lanka is through the large-scale production and processing of soybeans. This could be a case in point by which the International Industry can demonstrate how industry can "pull agriculture by its boot straps" in developing countries.

5. The two main conventional soy products : soy meal and soy oil will either meet local demands for cattle feed and oil or can be exported after meeting local demands for protein.

6. Competition of the soy products will mainly be with coconut products.

Total production of coconuts in 1970 was estimated at 2,447,000 nuts of which 1,172,000 were consumed fresh, 6 million nuts were exported and 1,269,000 were processed. Of the latter 334,000 nuts were used to produce desiccated coconut (48,400 tons) for export. The remaining nuts produced 180,400 tons of copra of which 15,300 were exported. The rest (165,100) were processed to produce 101,600 tons of oil of which 57,100 tons were exported, and 50,800 tons of oilcake which was fully utilized in the country. As coconut is a basic item in the Ceylonese diet, the rapid growth of population threatens a steady reduction in supplies. A limit seems to have been reached for the expansion of land under coconut, now amounting to 1,152 million acres of relatively senile plantations, and fears have been expressed that by the end of the century, Sri Lanka may have to import oil to meet her domestic requirements. (See "The Fats and Oils Economy of Ceylon. CEY 22. COM 24 June 1972. WS/D2709. FAQ)

7. Even if the total production of soybean is processed in Sri Lanka for export, the country would benefit through foreign exchange earnings. The participating foreign firm could obtain its profits anywhere in the world.

If only part of the production will be required for local consumption, then the rest could be processed for export thus allowing the participating foreign firm to obtain its profits outside Sri Lanka.

If the total production is to be consumed within the country, this will undoubtedly release foreign funds at present being used to import food items or will allow resumption of exports now banned thus increasing the country's foreign exchange earnings. In either case, profits of participating foreign firms could be paid outside the country.

8. With a soy base in the country, production of items such as full fat soy flour and soymilk powder would be possible. The first can be added up to 6% in bread with absolute consumer acceptance. This has been tried in many parts of the world and there is no reason to believe it would not work in Sri Lanka. Savings in wheat/flour importation would be substantial.

Soy milk powder has been market-tested in India by the Canadian Hunger Foundation and was highly acceptable when reconstituted and mixed with skim milk at a ratio of 1 : 1. This will go a long way to extend milk supplies in Sri Lanka.

Soy milk has also been used successfully in calf-feeding in Canada. This can have a milk-sparing effect and increase available milk supplies.

9. The end result of an intervention by the FAO/ICP JTF in Sri Lanka would be to make available in the country a "stable" feed/food crop which is easy to grow, beneficial for the soil and "versatile" in its utilization and food value. Even if there were no immediate demand for soybeans in Sri Lanka at present or in the immediate future, large-scale production and processing of soybeans for the export trade can be an economically profitable enterprise.
10. An added advantage of the soybean is that it can be grown mainly on lands presently not utilized for agricultural production. It will not, therefore, compete with existing crops. On the contrary, it appears that rice farmers may be able to grow a soy crop between rice crops, thus having in certain areas two crops of rice and one of soy per year .

11. There is ample knowledge among the JTF members of soybean processing technology, marketing of oilcake and oil, international trade in these commodities, etc. Information on capital costs of soybean processing plants and overall operating costs must also be available to many JTF members.
12. There is in Sri Lanka sufficient knowledge of small-scale soybean production and there is a local well-established firm (Ceylon Tobacco Co. Ltd.) willing to be in charge of large-scale production, providing foreign exchange for the purchase of farm machinery is made available to it. Assistance from UNDP/FAO for soybean production has already been approved (Govt. Rps. 1 M., UNDP \$400,000) and some of the best knowledge in the world in this area (Department of Agronomy and International Agricultural Programs, University of Illinois) can be contracted to advise on this assistance.
13. The Government is definitely serious about the introduction of the soybean into Sri Lanka and, with the present critical food supply situation, would look with favour on foreign participation. (See Annex IV)
14. It would seem, therefore, that the stage is set for a significant participation of the JTF in the socio-economic development of Sri Lanka through a conventional enterprise with established profitability potential. Under the circumstances, it appears that the JTF, if agreeing in principle to this project proposal, may well be advised to proceed as outlined in section II below.

. II . PROPOSED ACTION BY THE JTF

- a. Government Commitment (October - December 1973)
1. Amplification of the White Paper of the Government of Sri Lanka of June 1972 as mentioned in the "ICP Mission to Sri Lanka Report" of October 1972, especially with regard to the establishment of a large-scale soybean production and processing industry in the country.
2. Exact area of lands to be used for large-scale soybean production, its location, water resources, access roads, available buildings, storage sheds, barns,

machine shops, etc.

3. Type of arrangement by which the Government would place these lands at the disposal of soybean production company (PRODCO).
4. Customs exemption, tax incentives, convertability of profits to be granted to PRODCO and to the soybean processing company (PROCESSCO).
5. Type of agreement the Government would wish to have with PRODCO and PROCESSCO, if any.
6. Other items as desired by the JTF.

B. Feasibility Study (January - February 1974)

1. Raw material supply and estimated capital and production costs.
2. Storage; raw material; end products.
3. Transportation facilities and estimated costs.
4. Utilization of end products; locally and for export trade. Quantities, estimated prices.
5. Processing; location; capacity, estimates of capital cost, production costs, overhead costs, estimated revenue (based on oilcake and oil only).

C. Identification of participating industry(s) (April - May 1974)

1. PRODCO.
2. PROCESSCO.
3. Government (Existing Corporation; new corporation; other).
4. Preliminary negotiations and provisional agreement.

D. Signature of official agreement (June 1974)

E. Commencement of production operations and installation of processing plant(s) (July 1974)

F. Sale of first crop of soybeans (December 1974)

- G. Completion of processing plant installation (July 1975)
- H. Harvest and processing second crop of soybeans (August 1975)
- I. Regular operation of enterprise (end 1975)

THE CEYLON DAILY NEWS, FRIDAY, AUGUST 3, 1973.

AGRICULTURE

Produce or perish

Nissanka Wijeyeratne President, People's Economic Front.

WHEN Mahatma Gandhi once observed that "to a people famishing and idle, the only acceptable form in which God can dare appear is work and the promise of goods as wages", he was echoing age old advice, once given by the Buddha, that man's hunger must be appeased as the prelude to all other things.

In fact the history of the Sasana, in Sri Lanka recited in the ancient chronicles gives much regard and space to those leaders by whose endeavours "bunds were raised, the waters impounded and lands cultivated..." The efforts had to be total and sustained as the dangers of crop failure, specially in ages when international commerce in food was relatively undeveloped, could well-nigh be disastrous. Famines were wont to occur while success sometimes rendered almost impossible when the 'mansuns' or seasons failed as both Arab sea-farers and the island cultivators knew full well.

Thus from very ancient times good and careful husbandry of agricultural resources became a national imperative and wars and internecine feuds were followed by renewed efforts and redoubled vigour to repair the intricate irrigation complexes and restore the yields of the land. Common forest and pastures; a rotation system of chena cultivation and its equitable 'mul-kete' division; a fair share of appurtenant high land adjacent to the fields; Praveri holdings and judiciously regulated practices of water issues and cultivation patterns; a unique 'betme' sowing when water was scarce; all with rajakaria duties on irrigation and communal works ensured social coherence and agricultural stability.

The abolition of 'rajakaria' in 1835, however well intentioned damaged immeasurably the cultivation system of the country until the far-sighted action of Governor Ward and the Irrigation Ordinance salvaged part of the national heritage in agriculture. Greater damage however came with the introduction of the plantations system—no doubt economically and technologically an immeasurable advance for the

times—but fraught with dire consequences to the indigenous sector of our country, the ill effects of which some of the new agricultural policies vigorously seek to rectify. The rural agriculturist was left out of the main stream of development and what was true for the commercial crops was also true for other branches of agriculture and animal husbandry. Jethro Tull and Turnip Townshend were household names in England. Taylor and Thwaites remained esoteric figures to the Ceylonese people. As Thomas Finnie, a pioneer American Advisor in India, realised in 1840 "whatever is done to be permanent must be brought about by stimulating the energies of the people and directing their efforts in the matter and impress upon them the value improvement will be to them. We might cultivate... for days under our own superintendence however successfully, and the people know nothing of the process by which success had been attained. They would consider it... a matter in which they have no part. Consequently, our exertions must be used among the people to induce them to apply their cheap labour to a superior mode of doing the work".

Now this covered almost the entire gamut of agricultural activity. The basis of the economy was pre-determined for the indigenous people. On which crops were the emphasis to be placed? How was the relationship between plantation and domestic agriculture to be determined? Through which means of crop diversification were the fluctuations of the world market to be avoided? What scientific methods were to be introduced and how were they to be financed? How was new seed equipment, fertiliser and credit to be provided? In what manner were tenurial laws to be recast and stability restored, enthusiasm generated and the residual fruits of his efforts to be guaranteed to the local peasant?

Villagers dispossessed of land and hemmed in by estates declined in prosperity. Their animals lacked pasture and substitute crops like kurakkan and el wee, amu and meneri went out of use. A

whole range of edible yams were forgotten. Cheap rice imported from Burma converted us to a nation of rice-boggers just as during the last war and afterwards a taste for wheat bread was popularised. Perhaps only the Jaffna farmer whose traditional agricultural patterns were not dislocated escaped this unfortunate predicament.

All this had to be attended to especially after the idealism of Lord Lugard for responsibility towards the governed in Africa gripped the imagination of all colonial officials. Sri Frank Stockdale tried to do his best for the indigenous cultivator and the skeletal education services gave whatever support it could in rural areas. Campbell's efforts for co-operative activity created enthusiasm just as Edmund Rodrigo's attempts in later years, to galvanize the extension services did. But nearly all the ventures, starved of funds and staff, ground to a halt due to the hesitance of the authorities to embark on what it felt would be subsidising subsistence agriculture at the expense of the plantation industry. Minor irrigation works, no doubt well carried out, largely formed the basis of rural development.

All were agreed that something ought to be done for the local villager but policy dictated almost exclusive support for the plantations. This ambivalent attitude, however resolved itself during times of crisis when food supplies were critically affected. During the 1914—18 scarcities resulted in organised government purchasing of rice. Other cereals were encouraged and peripatetic conscientious and sympathetic G.A.A. like Freeman in Anuradhapura could ecstatically record that renewed efforts had brought about increased kurakkan yields, which Matale estates were rapidly buying up at Rs. 10/- a bushel. In his own words he saw the Mahavamsa being fulfilled.

It was however only during the time of the Governor Huxh Clifford—perhaps one of the ablest of pro-consuls in Britain's colonial history—that a clearly defined forward policy became discernible when in 1972 he propounded his ideas before the Central Board of Agriculture. As he

later explained in a succinct letter to festing the G.A. of Uva economically he wanted the great plantation industry to continue vigorous and profitable but he realised the need to alleviate the demographic pressures of the local villages. This he sought to meet by wide spread labour—intensive peasant colonization schemes in the Wet Zone. He thus sought to reconcile through a systematic approach two vital aspects in the prevailing agricultural pattern of the land.

The project for peasant colonization schemes was later in the hands of nationalist politicians stirred by the past emphasised more in the Dry than the Wet Zone areas. Development was however slow. Peasants did not readily opt to leave areas they were traditionally accustomed to, malaria took its toll and limited financial resources all contrived to hamper the activities. Unwisely too, no heed was paid to Dr. Das Gupta's incessant plea based on his study at Tabbowa, that the economics of colonisation agriculture be seriously studied as pre-requisite for further development.

The last great war then intervened. The sweeping Japanese victories and control of the entire South-East Asian Rice Bowl compelled our people to eat less, change their diet habits and accept substitutes and above all to work harder to produce more. Government perforce became inevitably involved with domestic agriculture. Emergency Kachcheries were opened and an intensive food production campaign covering the countryside and estates as well was launched.

Unfortunately, the post war years saw a significant waning in enthusiasm. The Korean war and the attendant Rubber boom induced a sense of Euphoria on the domestic development scene. Hardly anything of significance was done and over the years a hand-to-mouth existence began to characterize our economy.

But to brood over the acts of omission and commission of the past years is a futile exercise. A rapidly expanding nation wants more of man's wordly goods. A desperate break-through is essential.

Continued

IT'S MEAT, MILK AND VEGETABLE

By CHITRA WEERASINGHE

FOR those who cannot eat the flesh of animals due to economic reasons, problems of health or religious observances but would nevertheless like to eat a substitute which offers the flavour and pleasure of real meat there is hope - a meat substitute from Soya Bean.

The Soya Bean a well established source of protein which can be eaten in many forms has been much in the news recently. It has also been the subject of research in other countries for many years and in Sri Lanka for the past ten years.

In America right now are a wide range of engineered foods - flavoured and textured to resemble meats of various kinds - roast turkey (which has even a plastic with bone) bacon, sausage, fish, etc. When produced the meat is cooked, canned, granulated or minced (the mince being for easy preparation of hamburgers, pies, etc.).

A local firm in Sri Lanka, hopes to produce such items in the near future but what is most heartening is that a few local housewives have succeeded in making these meat substitutes, though their products have not reached technical perfection.

At a seminar organised recently by the Sri Lanka Federation of University Women, to encourage the cultivation and discuss the nutritive value of Soya Beans, there was on display a few samples of luncheon meat, sausages, roast meat, which I thought compared very favourably with the flavour and texture of meat.

SIMPLE

"The making of a meat substitute from soya bean is simple" said one lady who had turned out one of the products. "For the base of all meat substitutes is gluten (the protein from wheat). All that one has to do is to extract the gluten from the wheat flour (Ata flour) by mixing about eight cups of Ata flour with three cups water to a very stiff dough forming it into a ball and placing it in a bowl of water for at least 2 hours after which all the starch has to be washed off by kneading the ball of dough under a running tap. Once the starch has been washed away (which will be obvious from the clarity of the water) the rubbery greyish mass left behind is gluten. This can be boiled and kept in the fridge and used when required. When one wants to make a meat roll, a chunk of roast beef, or perhaps a curry, all one has to do is to mix this gluten with sufficient soya flour to make a nice smooth dough, add salt, marmite or bovril to get the flavour of meat and prepare it in the required manner.

The Soya Bean is said



PREPARATIONS FROM SOYA FLOUR - STRINGHOPPERS, PITTU, ROTI, AND VADAL

to be the richest and cheapest source of proteins and fats in the world, containing forty per cent protein in contrast to seven point five per cent in rice, ten per cent in wheat and twenty to twenty six percent in different pulses and about twenty per cent oil as against one point five per cent in other pulses except ground nuts.

It has been an important food in the daily diet of the Chinese and Japanese, and other Asian people for well over two thousand years having been integrated into their daily diet in a variety of dishes. So much so that a Japanese newspaper stated recently that if soyabean imports are stopped one out of every four Japanese will starve. Most developing countries use it as an essential ingredient to enrich local food which could be a source of protein to those who cannot eat meat.

"The Filipinos use salted soya bean with vegetables to complete their meal" said Mrs. P. Dino Economist of the FAO. Soya bean curd is used with rice, for seasoning meats or vegetables, soya milk is given to those allergic to cow milk and the little Filipino children relish a drink made from this called "Paco".

"Five ounces of soya bean" said Mrs. Dino, is equivalent to the protein content of twelve ounces beef, fourteen ounces fish and nine eggs. It had a good percentage of fat, a high calcium content almost four times more than in other pulses and large amounts of iron which could solve the nutritional anemias that usually occur due to iron deficiency. Vitamins of the B group are high in the soya bean especially B2 the inadequacy of which in most people also create problems.

"The country needs four hundred and twenty five thousand pints of milk a day" said a representative of a firm working on the soya bean. And Sri Lanka is only able to supply one hundred and twenty five thousand pints of these requirements. The balance three thousand pints are imported in the form of skimmed milk, powdered, and condensed milk etc. And this is where the soya bean can ease the situation saving the country valuable foreign exchange of almost hundred and twenty five million rupees."

Can the average housewife make her own milk at home with Soya Bean?

The process is simple. It has been tried out by the Seventh day Adventists at

Mihalapitiya and the Farm Womens Agricultural Extension Project of the Department of Agriculture. One method of extracting milk on a home scale is to soak the Soya seed overnight, remove the hulls by rubbing them between the palms, draining the water and roasting the seed slightly. Once this has been done the seed has to be ground into a paste, water added in the proportion of eight ounces soya seed to twelve and a half cups water and the mixture boiled. Strained with salt and sugar added. This has to be boiled once more and strained and gives three to four bottles of soya milk. The approximate cost of a glass of soya milk will be six cents whereas a glass of raw milk would be in the region of thirty cents.

VARIETY

Soya bean can be served in a variety of ways. It can be eaten boiled with a rich source of Vitamin C taken in other forms (the content of vitamin C is not so high). Soya bean can be cooked as a vegetable, curry, used as a salad, fresh green soya beans can be prepared in the same way as green peas, made into cutlets, or turned into flour, which could be then used for a number of breakfast preparations like stringhoppers, pittu, roti, thosai, vadai and such items like cakes, puddings, biscuits and pan-cakes.

Making the flour at home is also a simple process. The seed has to be soaked overnight, the hull removed and the seed boiled for fifteen minutes, then sun dried and pounded at home or milled.

The Soya bean can be grown anywhere in the dry zone and at anytime of the year without any variable effects of flowering or podding. It can even be grown in home gardens for the soya bean grows into a neat little bush just two feet high and takes approximately two to three months (depending on the variety of the seed) to yield. The yield per tree is said to be roughly about quarter pound of soya beans and only one crop can be harvested from each tree.

Any information on the cultivation of this crop can be had from the Agricultural Information Division and the seeds could be purchased too.

Right now, I understand the soya seeds are considered a precious commodity as the intention is to propagate as much seed as possible to give us our requirements in soya bean and it would be advisable if only dedicated growers would make a business for the seed.

joint venture provides

MOCK MILK FOR INDIA

INDUSTRY, GOVERNMENT, CHURCH AND UNIVERSITY SUPPORT PROJECT

M. M. AREF

The Malwa Economic Development Society (MEDS) is a non-profit organization established in 1963 by the United Church of Canada and the Malwa Church Council to create work opportunities for men and women in the Malwa District of the Madhya Pradesh Province in India. MEDS' modus operandi is to establish small-size, labor-intensive industrial units which employ local workers. The type of industry is indicated by regional needs and availability of raw material, but particularly by its potential for acquisition or duplication by local entrepreneurs when proven effective.

Examples of industrial units introduced so far by MEDS are a furniture workshop which has been bought by its former local foreman, a water-well drilling operation which resulted in the large-scale introduction of modern drilling rigs into India, and a grain storage enterprise which seems at present to excite a great deal of attention, not only in India but in Africa as well.

In 1967 MEDS recognized the need for the introduction into India of food industry units under the same line of action. A food advisory team was recruited in Canada and visited India in February and March, 1969, to make a food processing and preservation feasibility study with particular reference to soybeans and other oilseeds. The expense of this study was shared by the United Church of Canada and the Canadian International Development Agency. Considerable preparatory work was carried out in India by D. H. Eadie who was, at the time, technical adviser to MEDS in Indore, India, and J. A. Gilmore, Poultry and Livestock Specialist, Action for Food Production, New Delhi, India.

M. M. AREF, is a research scientist with the Food Research Institute of the Canada Department of Agriculture, Ottawa. The Food Advisory Team referred to above was composed of J. S. Wenzel, Vice-President (Technical), the Griffith Laboratories, Ltd., Scarborough, Ont.; G. S. Boulter, President, Canadian Vegetable Oils Processing Co., Hamilton, Ont.; R. W. Fisher, President, Soypro International, Cedar Falls, Iowa, U.S.A., and the author.

One of the recommendations of the food advisory team was the exploration of soymilk manufacture as a possible industry to be established in India by MEDS. The bases for this recommendation were the well-known protein shortage among Indian children, and the intensive work being undertaken by USAID to introduce soybean culture into India in co-operation with the Indian Council of Agricultural Research, the University of Illinois, the Uttar Pradesh Agricultural University and the Jawaharlal Nehru Agricultural University. This work has already proven that India is well suited for soybean production and, in fact, a substantial annual tonnage of soybeans is expected in the immediate future.

INSTITUTE MODIFIES INDIAN METHOD

Attempts to obtain samples of fluid soymilk for evaluation revealed that this product was not commercially available. Private laboratories engaged in this product area did not have a supply of the material. It was, therefore, decided to prepare the fluid soymilk at the laboratories of the Food Research Institute, Canada Department of Agriculture, for evaluation by the food advisory team.

The method used in the preparation of the soymilk was that developed by the Central Food Technological Research Institute, Mysore, India, in 1957, with minor modifications. The dry beans were cracked in an attrition mill to grits about one-sixteenth inch in diameter. The hulls were separated by air classification and discarded. The dehulled bean fraction was then immersed in running water at room temperature (20°C) for 16 hours, then drained and soaked in dilute sodium bicarbonate solution (0.1 percent) at 60°C for 15 minutes. This latter treatment removes the bitter principle in soybeans. The debittered beans were drained and rinsed with warm water to remove traces of bicarbonate, then ground in a comminuting machine to a particle size less than one-sixteenth inch. The dehulled, debittered and ground beans were then mixed with an amount of water equal to

six times the weight of the original dehulled dry beans. The resulting slurry was boiled in a mixing kettle for 15 minutes then pumped onto the 80-mesh screen of a vibratory separator. Boiling is believed to inactivate the native trypsin inhibitor which would otherwise interfere with normal digestive processes. It also drives off undesirable odor compounds naturally occurring in the soybean.

Both the soymilk passing through the screen and the residue remaining on the screen were either drum-dried or spray-dried. The four dried products were nutritionally evaluated in rat feeding experiments by Dr. Z. I. Sabry of the School of Hygiene, University of Toronto. Protein efficiency ratios were equal to those established for soybean protein. In other words, the processing and drying required to manufacture dry soymilk did not seem to have any harmful effects on the nutritive value of soy protein.

However, the four products did not behave in the same manner when reconstituted. In the first place, the dried soymilk product resulting from the residue remaining on the screen did not reconstitute as well as the product resulting from the portion passing through the screen. Secondly, the drum-dried soymilk did not reconstitute as well as the spray-dried product. The first difficulty was overcome by reducing the particle size of the debittered beans in the comminuting machine so that no residue remained on the vibratory screen in the last step of the process, i.e., before drying. The second difficulty was eliminated simply by confining drying to the spray dryer.

The spray-dried soymilk was evaluated by a small group of experienced food technologists after reconstitu-

tion to fluid milk and flavoring. In addition, the dry product was incorporated into typical Indian baked and fried foods by members of the Indian community in Ottawa. Both tests were quite favorable. It is planned to send three tons of the product to India in July 1971 to determine acceptability. Assuming satisfactory results from this trial, it is envisaged that a pilot plant producing about one ton per day of the dried product will be established in India for meaningful market testing.

PROCESS COULD BENEFIT CANADA TOO

An interesting offshoot of this foreign aid project could very well give returns here in Canada. Skim milk and/or whey were used instead of water to prepare the fluid soymilk. Upon spray-drying, the resulting powder was found to possess better dispersibility than the original dried soymilk. This quality is very important in automatic feeding of small animals. The use of the skim milk/soymilk powder as a milk replacer for lambs and calves is at present being investigated by Dr. A. D. L. Gorrill of the CDA's research station in Fredericton, New Brunswick. Preliminary results of rat feeding experiments run by Dr. H. Anderson at the University of Toronto showed the skim milk/soymilk to possess a protein efficiency ratio equal to that of casein.

The most impressive aspect of this work has been the sustained support it continues to receive from such diverse organizations as the United Church of Canada, The Griffith Laboratories Limited, the Canadian Hunger Foundation, the University of Toronto and the Canada Department of Agriculture. □

C.A.R.I.,
7th August 1973

To : Those concerned with Soybean Research
From: W. G. Golden, Jr.

The current Soybean Research Program was initiated at the conference held at C. A. R. I. on 9 January 1973, at which time various research needs were identified. Soybean experiments have been implemented which involved fertilization, spacing, varieties (both local and introduced), weed control, and time of planting (to determine response to photo-period). These experiments are being conducted at several locations around the Island - - - Maha Illuppallama, Gannoruwa, Alutharama, and Angunukolapellesa. The data from some of these locations are excellent, while other locations have experienced difficulties in their soybean research efforts - - -mainly "people problems", like the case of an RO without notice quitting the soybean research program to join another government organization and taking with him all pertinent records.

From 16 to 20 July a number of departmental officials visited all four soybean research locations and found excellent progress being made at three of the four locations - - - the fourth one was mentioned above where the responsible person just simply walked off the job without giving notice.

One of the several soybean experiments being conducted at the four locations this season for the first time is "INTSOY" - - - the International Soybean Trial" sponsored by the Department of Agronomy of the University of Illinois - - - one of the pioneer institutions in soybean research. This standard soybean trial consists of 20 varieties and 4 replications at a given location. I should point out that Sri Lanka received four "INTSOY" trials for this Yala Season, while the largest number sent to any single country was five trials to Thailand. Thirty-one countries in all received a total of 54 "INTSOY" trials as shown below:

NUMBER OF TRIALS
RECEIVED

COUNTRIES

One "INTSOY"	Egypt, Ghana, Sierra Leone, Somalia, Sudan, Guatemala, Peru, Malaysia, Tonga, Afghanistan, Iran, Iraq, Syria, South Yemen.
Two "INTSOY"	Belize, Costa Rica, Colombia, Ecuador, India, Philippines, Vietnam, Jordan.
Three "INTSOY"	Ethiopia, Mexico, Puerto Rico, Indonesia, Pakistan
Four "INTSOY"	<u>Sri Lanka</u>
Five "INTSOY"	Thailand

Continued:-

From the above it should be clear that major emphasis is being placed on the "INTSOY" in Sri Lanka (second only to Thailand). There is no doubt that we can produce much more soybeans per acre and per year than many other countries. For instance, the following yields have already been realized in Yala 73:

- MAHA ILLUPPALLAMA

- on 14 acres of TK-5, average yields of about 1500 pounds (25 bushels) per acre have been harvested
- on 2 acres of better soil, yields of 2500 pounds (42 bushels) per acre have been harvested

- TRINITY COLLEGE FARM

- on 1/10 acre, TK-5 has yielded 2356 pounds (39 bushels) per acre

It should be recalled that the overall average yield of soybeans in the U.S. is only 28 bushels per acre, and 50 bushels per acre is considered quite good, so the above yields are quite acceptable.

The Sri Lanka Soybean Research Program must move forward very rapidly so we will be prepared to enter a large scale production program by about the start of Yala 1974. That does not give us much time, and there are many questions to be answered. Money has been released for soybean research, so this factor can no longer be limiting.

The Yala soybean seed increase of TK-5, Bragg, PB-1, Tainung R-1, and other varieties has proceeded well at Maha Illuppallama and at Mahiyangana (Ceylon Tobacco Company). TK-5 harvested at Maha Illuppallama during the past two weeks yielded 1500 pounds (25 bushels) per acre over 14 acres. Harvest of 15 acres of TK-5 at CTC will commence about mid-August. To date, the crop has looked good. Assuming average - to - good yields, some 350 tons of seed should be available for Maha planting about October this year. All of this seed will be used for another round of seed increase, and none of it will be available for general distribution to the public. All requests for soybean seeds should be channeled to known private growers such as those in various Special Projects. We are attempting to compile a list of all known private soybean growers, and this will be given wide distribution when completed. Again, it should be emphasized that none of the soybean seed increased at Maha Illuppallama and at Mahiyangana during Yala 73 will be available to the general public. It will all be used in specific and organized programs only.

With your dedicated efforts and your cooperation, it will be possible to obtain very reliable soybean research data that can be formulated into Extension recommendations for the benefit of farmers wishing to grow the crop. Much information needs to be obtained yet, but we have a good start.

Thank you.

William G. Golden, Jr.
Project Leader.

	FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS	DDI : G/73/24 1 March 1973
	ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE	
	ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y LA ALIMENTACION	

FAO/INDUSTRY JOINT TASK FORCE ON PROTEIN FOOD DEVELOPMENT

Report on a Visit to Colombo, Sri Lanka

Marcel Ganzin

Director

Food Policy and Nutrition Division

18 - 20 February 1973

1. PURPOSE OF THE VISIT

On my way back from a visit to the Far East, I made a short stop-over in Colombo to meet with the Senior Agricultural Adviser/FAO Country Representative, Mr. S. Mazumdar and some Government officials to learn about the stage of development of nutrition activities in general and in agricultural planning in particular.

2. OFFICIALS CONTACTED

In Colombo I met with officials of:

- the Nutrition Division of the Medical Research Institute;
- the Bureau of Census and Statistics in Colombo.

In Kandy I met officials of:

- the Department of Agriculture (Director; Deputy Director; Extension, AO/Farm Women's Agricultural Extension);
- the Agricultural Research Division (Director and Research Officer);
- the Agricultural Economics Department, University of Sri Lanka (Prof. Jogaratnam).

I then, in the company of Mrs. Diño, FAO Home Economics Expert, and Miss Ariyawathie visited the farm women's agricultural extension project in Walagampaya village.

3. MAIN ISSUES

- (a) Nutrition: we discussed nutrition programmes and research.

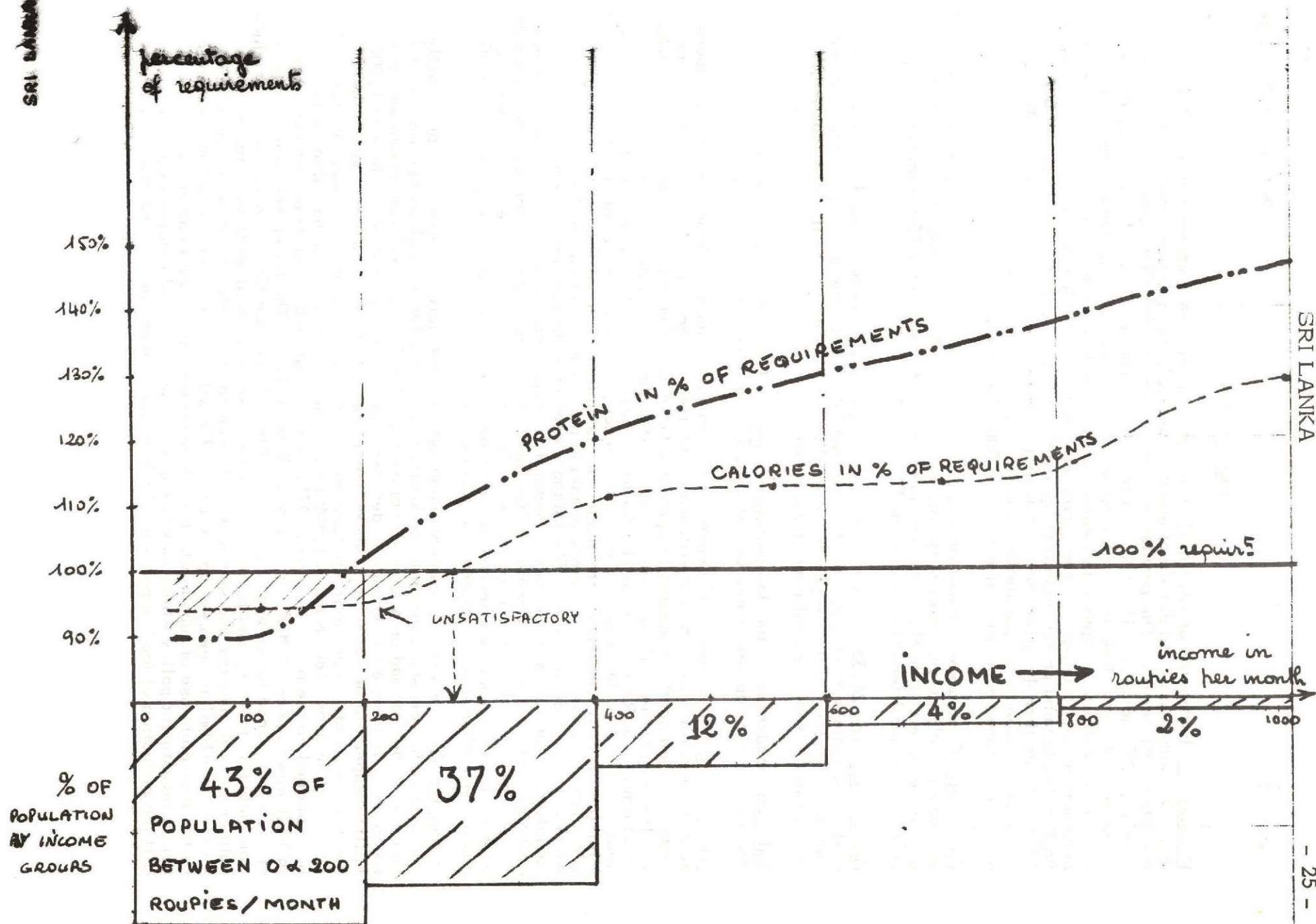
It seems that due to the economic difficulties the country is facing at present, and because of crop failures, acute cases of malnutrition are now much more frequently found in hospitals whereas before they had almost completely disappeared.

- (b) To face this situation and to distribute a high protein food to poor children, the Government is considering, with the assistance of UNICEF and Care, the development and production of protein-rich foods. We explained FAO/ICP possibilities in that field; it will be discussed at a Governmental meeting and Mr. Mazumdar should inform us about the Government's possible interest in JTF assistance.
- (c) Food Policy: The present five-year plan, which I discussed briefly does not contain any provision for nutrition objectives and food planning and food policy. Nutrition activities are limited to research and intervention programmes but it will be an opportunity to greatly improve the situation by using the results of the socio-economic survey (1969-70) to formulate and sound national food and nutrition policy.
- (d) Results of the Census: The food balance sheets (FBS) from Sri Lanka show that food resources are sufficient to meet nutritional needs (2100 calories 45g protein per capita). But the low income groups are mal-nourished and amongst them children suffer most. The survey indicates that calorie and protein intakes are directly related to income. An article prepared by L.N. Perera, S.W.M. Fernando, B. de Mel and T. Poleman (on FAO assignment): "the effects of income on food habits in Ceylon - The findings of the socio-economic survey 1969-1970" shows in a table a breakdown of income and food consumption level. We translated into a graph the results of this document which indicates clearly that if FBS show a per capital availability of about 100% satisfactory diet, in fact 50% of the population, because of their low income, have an unsatisfactory calorie intake and about 40% a low protein intake. A study of distribution within the families of the low-income group, will show that children are most affected by these shortages.
... (See Annex)
- (e) Future action: The discussions held in the Department of Agriculture the Nutrition Division the University the Bureau of Census and Statistics demonstrated that everything is available in Sri Lanka in the form of information, planning structure, skills, etc., to formulate and apply a food policy within the national development plan. Furthermore this country is the ideal size for FAO to assist in implementation of action programmes. It has been agreed that, as soon as the methodology from FAO and the final results of the socio-economic survey are available we shall, through the assistance of Mr. Mazumdar consider, as a joint enterprise the study and formulation of a food policy to lead to adequate intervention programmes and to be, in due time, interpreted in the economic development plan.

At present Sri Lanka faces economic difficulties which, because of the direct link between food and income, have a direct repercussion on nutritional status. I, therefore, suggest that the Joint Task Force on the promotion of protein food development consider Sri Lanka as one of the countries to be selected for further investigation for the following reasons:

- the country is very much distribution-minded (2 measures of rice per week are distributed free to all citizens - now reduced to 1 measure);
- since the production of weaning food is already envisaged with external sources of assistance;
- the road and marketing systems are rather good;
- as an island the country is rather homogeneous and autonomous;
- the policy of the Government on foreign cooperation is favourable (please refer to June 1972 document issued by the Ministry of Planning and Employment, Sri Lanka). In this regard, ICP is already known in Sri Lanka through the work of its recent Country Mission. Perhaps a protein food project could be one of the first test cases in implementing the guidelines for foreign industry participation now being prepared by ICP at Government request.

SRI LANKA



SRI LANKA

SRI LANKA

Population: Estimated at 12.5 million in 1970, growth rate varies between 2.2% and 2.8% annually. Birth rate of about 31 per 1,000 population, average life expectancy 61 years. The population is composed of 69% Sinhalese, 11% Ceylon Tamils, 12% Indian Tamils, and smaller percentages of Ceylon Moors, Eurasians, Burghers, Malays, Pakistanis, Europeans and Veddahs. The population increase is primarily due to a rapidly decreasing death rate (thanks to an active public health programme) and the gap between births and deaths has widened in spite of a successful family planning programme aiming at reducing the birth rate to 25 per 1,000 by 1975. More than 4 million people (about 1/3) are under 16 years of age. The urban proportion of the population is estimated at 17%. The capital, Colombo has an estimated population of more than 500,000 people.

Education: Compulsory school free of charge, for children five to fourteen, free secondary, college and university education. About 84% of population aged five to fourteen are at school. Four universities graduate about 2,000 students per year. Average literacy rate over 80%.

Geography: The 25,332 square mile pear-shaped island is positioned on the south-east tip of India's mainland, and it is divided into a wet zone and a dry zone. About four-fifths of land is flat or gently rolling; one-fifth a mass of hills and mountains located in the south central part of the island.

Religion: Buddhism is the dominating religion. The Tamils (23%) are Hindus and about 9% of the population are Christians, 7% are Muslims.

Government: After nearly 450 years of European domination Ceylon became independent from Britain in 1948, but still with a British monarch as titular head of Government, with authority delegated to appointed Governor-General. Following a landslide election victory in 1970 the centre-left coalition broke the links with Britain in 1972 proclaiming the Republic of Sri Lanka which has remained a member of the Commonwealth. The President is the former Governor, Mr. W. Gopallawa, the Prime Minister is Mrs. Bandaranaike, leader of the United National Party. The new administration has shown evidence of taking the country on to a far-left-of-centre socialist type of democracy. The Island's economic development has now a more socialist orientation and the public sector is consequently playing a dominant role in economic development. Foreign policy has, as expected, been more directed towards closer links with the Communist block. State intervention and pressure on foreign interest in Sri Lanka have increased and there has been a marked expansion of State trading and other manifestations of economic nationalism.

Economy: The present Government inherited an extremely bad economy, principally due to its predecessor's attempts to keep consumption levels high by borrowing large sums of money abroad on a short-term basis. The foreign exchange predicament in the country is hampering economic development: a 'resource gap' of close to 1,000 million Rupees to be covered by short-term credits. In the past five years there has been a steady increase in the foreign debt component which now accounts for 27.5% of the gross debt Rupees 1,800 mn. The economic drain has also partly been blamed on the insurrection in 1971. Gross National Product at current prices in 1971 was Rupees 11,888 mn; per head Rupees 927. The latter shows a decrease of 1.2% compared to the previous year. About 1/3 of the GNP is agricultural production including forestry and fishery but there exists a gradual shift away from agriculture toward industry and services. To remedy the difficult economic situation a Five-Year Plan has been set up for 1972-1976 with the following essential elements: (i) the maximum use of labour which is the resource available in abundance; (ii) an investment policy which makes the best use of limited foreign exchange; (iii) the reduction of food imports by the immediate development and diversification

of agriculture; (iv) full and efficient utilization of existing industrial projects; (v) the development of a new export sector and (vi) the involvement of the people in the formulation and execution of development projects at local level.

The terms of trade have been even more unfavourable over the last few years due to crop failures, higher import prices and lower export prices, and the external payment crisis is apparently moving towards its climax this year. A land reform is in progress redistributing to landless, land from those who own more than 50 acres. Furthermore, an incomes ceiling legislation will apply during 1973-74 compelling each family to pay the excess over Rs 24,000 yearly earnings into a savings account at the Central Bank.

Money and Banking: Unit is the Rupee, divided into 100 cents, US\$ = 6.70 Rupees (official bank rate). The Central Bank of Sri Lanka (Ceylon) administers the exchange control system, implements monetary policy, and regulates the money supply through such techniques as open market transactions, rate changes and changes in the minimum reserve requirements of the commercial banks.

The commercial banking system consists of twelve banks - four Sri Lanka banks and eight foreign banks, consisting of four British, three Indian and one Pakistani bank. At the end of 1971, these banks had 189 branches, of which the Sri Lanka banks had 176, the British banks 9 and the Pakistani banks 4. The National Savings Bank was established in 1971.

Prices and Incomes: Prices gained significant momentum during 1972 with clothing prices showing a particularly sharp increase. The cost of living index rose by about 7%; prices of home-produced goods rose more sharply than those of imported goods. The mean size of the households is 5.8 persons; slightly higher in the urban than in the rural areas. The average (mean) income of the households is Rs 289 per month (urban: Rs 453; rural: Rs 246). Distribution of income is skewed: although about 43% of all households have incomes of less than Rs 200 per month, their share of total income is less than 20.5%. The figures include non-monetary income which sometimes in the lower income groups accounts for up to 1/4 of the total income.

Imports and Exports Trade: Principal imports are rice, flour and sugar. Dairy produce, fish and fish preparations are also important items. Rice has been imported at a fairly constant rate (479,600 tons in 1970) and supplied about 30% of demand. In 1971, however, the disruption caused by the insurgent movement resulted in a sharp decline in trade figures. All Ceylon's wheat and wheat flour requirements are imported - trade is increasing steadily. The tonnage in 1965 was 298,600; in 1970 620,300. Other imports have been maintained at a fairly constant level.

Main exports are tea, rubber and coconut products which account for 84.5% of export revenue. Fresh coconuts, cocoa and citronella are also exported. The export of tea, which is by far the most important commodity accounted for 57% of the total in 1971 and has remained fairly stable over the last five years.

Labour: The labour force is estimated at about 1/3 of the population. Agriculture and related activities employ almost half of the labour force; services 14%, trade and commerce 12%. Unemployment, as well as underemployment, is a serious problem. Estimates of the number of unemployed vary between one million and 500,000 people. A crash programme in 1971 aiming at reducing unemployment by 100,000 was a complete failure and had to be cancelled. About 100,000 young people are entering the labour market every year but very few jobs are available. The unemployment among the younger ones was a key factor in the 1971 insurgency.

Transport and Communications: The Public Works Department is responsible for about 12,500 miles of road of which about 8,000 miles are bitumenized.

In March 1968, motor vehicle registrations numbered about 158,000 including 84,000 passenger cars.

Sri Lanka Government Railway has 1,080 miles of railway track.

Sri Lanka has three ports to accommodate deep-sea vessels: Colombo, Trincomalee and Galle. The outstanding importance of Colombo is indicated by statistics showing that in 1970/71 it handled 2.8 mn. tons of cargo compared with 255,000 tons handled by Trincomalee and 59,000 tons by Galle. Colombo is also an important stopping place on international air routes.

In 1971 Sri Lanka launched its own merchant fleet. The Sri Lanka (Ceylon) Shipping Corporation purchased its first vessel - a 14,000-ton freighter - in March. More vessels were acquired in 1972.

There are telegraph connections between important points on the island. International communications with most countries are also available through the international telex service. About 58,000 telephones were in use early in 1969.

Nutrition and Health Status: An extensive socio-economic survey was carried out in 1969/70 by the Department of Census and Statistics with FAO assistance. Figures derived from the food balance sheets show a per capita daily availability of about 2,100 calories and 45 g. of protein of which 12-14 g. are of animal origin (the per capita daily recommended allowance for Ceylon is 2,200 calories). When broken down by income groups however there is evidence of malnutrition, especially among children of the low-income bracket (43% of households in Ceylon have a monthly income of less than Rs 200). In this group two-thirds of the income is spent on food (excluding liquors). The survey points to the existence of protein-calorie deficiency and a lack of riboflavin, calcium and iron in this group. Malnutrition is most prevalent among the urban poor. Among the vulnerable sections nutritional anaemia is prevalent because of iron and folate deficiency.

Food Habits: Contrary to experience in most countries the proportion of starchy staple foods in the diet does not decline significantly as income increases. Consumption of the principal sources of vegetable proteins, rice, pulses and coconut, also remains constant through the income groups though the animal protein component varies between 13% and 26%. Milk, milk products, meat and fish begin to increase after the Rs 400 threshold.

The Sinhalese are very fond of sweet drinks especially highly sweetened tea and malted milk.

Though the population of Ceylon is composed of a number of ethnic groups, dietary habits vary comparatively little among them. There are some differences of ingredients based on religious beliefs, but basic foodstuffs and cooking methods are essentially the same. Muslims use a wider range of protein foods than the Sinhalese who strictly speaking should not eat mamalian flesh. Fish is a popular and frequent item of diet. Most main dishes are composed of rice and curries containing meat, fish, vegetable or egg.

In the low income brackets meat or fish may not be included in the curries more than three times a week. Income tax payers are now excluded from the free rice rations which were once distributed to all.

Bread because of its convenience is popular among families in which the housewife goes to work.

There are few, if any, taboos on diet during pregnancy. Within the family it is the almost universal custom to offer solid foods to the child only to a limited extent before the end of the second year. Rice is usually eaten sparingly only after the first birthday and curries towards the end of the second year.

Raw Materials: Home production of rice increased steadily until 1970 when there was a drop from 1,616,000 to 1,374,000 tons. This decline is continued into 1971 because of the adverse political situation and was worsened by a poor harvest in 1972. This also affected tea and coconut production. Home-grown products which do not reach the export market are maize, sorghum and millet, cassava, potatoes, yams and sugar, cashew nuts and groundnuts, sesame seed and mustard seed.

With the exception of sorghum and millet, production of these commodities has increased in the 1965-70 period.

Mung beans, dry peas, cow peas, lentils are largely imported.

A variety of spices is consumed. Ginger, turmeric, pepper, cinnamon and cardomom are home produced - pimento and coriander are imported.

Government Policy on Investments: Total investment in 1971 (private and public) accounted for Rs 2,186 mn equivalent to 17% of GNP.

The ambitious Five-Year Plan stipulates a total investment of Rs 14 billions of which private (foreign and domestic) is expected to account for about 50%. A "white paper" on foreign private investments was issued in 1972 recognizing the importance of private foreign investments to the economic development of the country. Foreign investments will be particularly encouraged in fields which will increase exports and/or substitute imports. Foreign investors are also welcome to participate in one of the many existing Government-operated industries. Incentives are offered foreign investors, e.g. tax inducements including development rebates, five-year tax holiday, permission to remit profits and interest due to non-residents, and repatriation of capital. A firm assurance has been given that in the event of nationalization of any property owned by a foreign investor, prompt and full compensation will be given. In all matters related to business activities, foreign investors will be accorded equality with local investors.

The Government is particularly interested in attracting foreign investors to the proposed free trade zone in Trincomalee (port in North East). A large number of foreign companies have shown an interest in this project.

In spite of the Government's seemingly positive attitude towards private investments it has attracted criticism for its treatment of private industry: "private industry is hamstrung by administrative regulations and licensing delays and discouraged by pronouncements about future nationalization..." (World Bank Report 1972).

Manufacturing Industry: The relatively modest place of the manufacturing industry in Sri Lanka's economy is indicated by the fact that it still contributes less than 13% to the GNP against 33% by agriculture and related activities.

Over 80% of the Island's industry is concentrated in the Western Province particularly in and around Colombo. Consumer goods' production predominates but in recent years the basis of production has been broadened, notably by the setting up of the oil refinery and a small steel plant. Most recent expansions in manufacturing have been carried out by the public sector corporations which in 1971 accounted for 30.3 per cent of total industrial output.

Industrial activity, however, depends heavily on imports of raw materials and components, and output growth, which in 1970 had already declined because of the tightening of import restrictions made necessary by the serious exchange shortage, was further impaired in 1971. Data published by the Central Bank show that the value added in manufacturing at constant prices rose in 1971 by only 3.3 percent compared with 5.9 percent in 1970 and 9.2 percent in 1969.

As of 1970 primary attention has been given to what are regarded as "essential" industries; these include textiles, salt, cement, plywood, fertilizers, ceramics, steel, petroleum, tyres and cast iron products. However, primary export commodities - tea, rubber and coconut - will have to remain at the centre of the economic growth. One-third of the total industrial production (valued at Rs. 2,239 mn 1971) is food, drink and tobacco products, most of it in the private sector. In 1966, 65 medium-scale and 100 small-scale units were involved in the production of food, beverages and tobacco. Among these industries were the biscuit, jam and jelly industries, the meat preservation, packing and canning industry and the beer, cigarette and match industry.

Public Information and Marketing Facilities: The press plays an influential role in the life of the country. In early 1969 there were about twenty daily newspapers with a combined circulation of nearly 600,000. The total circulation of the fourteen weekly newspapers approached one million.

The publicly-operated Radio Ceylon has two channels, one commercial service with light entertainment, one national service with more serious and educational programmes. In 1968, there were an estimated 550,000 radio sets in the country. There is no television broadcasting in Sri Lanka, but a total of 265 cinemas, with a total weekly admission of 2.4 million, allow advertising.

A few companies operate outdoor advertising, which largely consist of hoardings. No direct mail agencies or institutions exist; most of this work is carried out by advertising agencies.

The retail and wholesale infrastructure is fairly well developed and assistance in promoting products is offered by some 20 advertising agencies. Market research facilities are reported to be very limited. The large companies operate their own independent research departments. The practice of public relations is in its infancy.

INDUSTRY COOPERATIVE PROGRAMME

FAO/INDUSTRY JOINT TASK FORCE ON PROTEIN FOOD DEVELOPMENT (JTF)

Preliminary visit to the

Republic of Kenya

12 March - 17 March 1973

25 March - 27 March 1973

by:

Mr. O. Ballarin: Co-Chairman of FAO/Industry Joint Task Force and
Member of the Protein Advisory Group of the United Nations
Mr. G.A.B. Knapton: Secretary of the FAO/Industry Joint Task Force



Rome, June 1973

Summary

The mission of the Co-Chairman and Secretary of the FAO/Industry Joint Task Force (JTF) on Protein Food Development was an exploratory one, to learn at first hand the Kenyan Government's approach to improving the country's nutritional status. The objective of the JTF is to make a lasting and viable impact on protein/calorie malnutrition in one or more developing countries.

PCM is relatively widespread among pre-school children in Kenya and the mean daily protein, fat and carbohydrate intakes of the average adult are below the recommended daily allowances.

The Kenyan Government is addressing itself to the formulation of a food and nutrition policy and presently places special emphasis on food production. There is keen awareness of the importance of nutrition in economic and social development, but a coordinating body is needed to ensure that a coherent policy is pursued with effective programmes of action.

Several companies in Kenya are deeply involved in the development of protein-rich foods and there is little scope at present for constructive intervention in these plans by the JTF, which encourages the Government to give every assistance possible to industry efforts aimed at improving the nutritional status of the population.

While a major attack on PCM is not possible, several indirect possibilities were identified. Kenya has an abundant milk supply about 40% of which is processed, mostly for export. About 50% of Kenyan families consume fresh milk regularly, and a campaign to increase the consumption of milk should be studied. In addition, in order to improve the financial condition and poor profitability of the Kenya Cooperative Creamery (KCC), new milk-based products and advanced uses of the large quantities of milk waste should be investigated.

Kenya presently imports almost 50,000 tons of oils and oilseeds. Average daily intake of fat, essential to efficient use of other nutrients, is relatively low. The Kenyan Government considers the development of an oilseed research and production programme as a top priority, consistent with its aims of increasing agricultural production and raising the cash income of the farming community. The JTF has taken the initiative of proposing this research programme to the Swedish International Development Agency for extensive bilateral financing from 1975-1979. The JTF will also enlist the support of ICP member companies to supply some of the necessary inputs - seeds, pesticides and fertilizers - and whatever technical advice may be required for effective implementation. The proposal is that this programme should be an extension of the present FAO/Fertilizer programme in Kenya.

The Purpose of the visit

The main purpose of the visit was to try to enlist the support of the Kenyan Government for the potential intervention by the JTF in combatting protein deficiency in Kenya. This entailed wide-ranging discussions on the nutritional status of the average Kenyan family, the Government's targets for nutritional improvement programmes and the scope for an industry based initiative.

The nutritional status of Kenya

There is no doubt that protein/calorie malnutrition (PCM), as medically defined, is widespread in Kenya. About one-fifth of the total population and about half of the total child population display at least some symptoms of PCM. This is an uncomfortable statement and one which many people challenge not only because it is uncomfortable but also because throughout most of Kenya there are few visible signs of people suffering from a poor diet or a plain shortage of food. Nevertheless, informed opinion holds that there exists enormous scope for improving and enriching the daily protein and calorie intake of the average Kenyan diet and that, until this can be achieved, there can be no impact on the primary or secondary consequences of PCM. While primary consequences are not common - kwashiorkor, for example -, the secondary consequences, which drastically affect educational attainment and productivity rates, will be of increasing importance to Kenya, which possesses many favourable features for rapid agricultural development and industrial take-off.

In general, there are two main diets in Kenya. The major part of the population depends on a maize-based diet, improved by varying amounts of meat, green vegetables and fruit. A small proportion of the population, living in areas surrounding Lake Victoria, eat fish, while the Masai people a little further to the north depend on their cattle for a relatively rich diet of meat, blood and milk. As a very rough guide, the mean protein and calorie intake is 80% of daily requirements: the range of intakes, however, is wide and the modal intake would probably be considerably lower.

It is not the present nutritional status of Kenya, however, which gives rise to greatest concern. The prospects are that the present situation will get worse rather than better, at least in the short term, unless fundamental changes are made to some of the most basic features of Kenya's total agricultural policy. There are many foundations for this rather alarming pessimism bound up, as they are, with an analysis of why PCM exists at all in Kenya and what the most likely outcomes of past and present policies will be.

In Kenya the incidence of PCM is closely linked with the system of land tenure. The average small-holding is about 1.5 ha. and this includes a vast number of very small "shambas" on which relatively large families depend for supplementing their regular needs of maize and vegetables. Holdings of this size are too small to support the average-sized Kenyan family with the food they need to survive and with the cash income needed to meet expenditures on school fees and other amenities for the smallholding and for the family itself. Moreover, in the face of a rapidly increasing population and changes in land use, many people believe that the available land per family is actually decreasing, thus aggravating a situation which is already in many cases bad.

Largely through the prices of maize and milk the small farmers are encouraged to sell crops and products for cash, rather than consume those marginal quantities of maize, meat, and milk which would allow a satisfactory diet to all members of the family. It is likely that this trend will continue as pressure on available land continues, and as the need and ambition for the things which more cash can buy become more pressing. For most Kenyans an improved diet is a very low priority when compared with other competing applications of their cash income.

Severe PCM is only really prevalent in drought-stricken areas such as Machakas, and in the urban slums of Nairobi and the other larger towns. In common with many other developing countries the rate of growth of the urban areas is extremely high as people, especially the young, leave the rural areas to live with (or rather off) their kinsmen, while in search of improved education or a more highly paid job. This extended family system both accelerates the population growth in the urban areas and removes the potential benefits to the established city-dwellers of the higher wages in the cities. Unemployment and underemployment are therefore prevalent features of these rural refugees to the cities, while the reservoirs of casual labour needed in the tea, coffee and cotton plantations of the rural areas are now increasingly rare.

Finally, the need for improving the medical services, the educational system and social welfare schemes is clear. It is unlikely that the Kenyan Government can devote the resources necessary to develop these at the rate required by its growing and more sophisticated population. While this natural bottleneck will not necessarily worsen Kenya's nutritional status, it will restrict the process of development and cause additional bottlenecks elsewhere in the system.

The Government's Targets for Nutritional Programmes

Members of the Kenyan Government and of the Civil Service are keenly aware that Kenya's nutritional status can and should be improved. But it is by no means a priority. Future National Plans will be more concerned with unemployment, agricultural production and foreign exchange savings than with nutrition. A very important factor in future planning will be food production, and the target is to put together a coherent policy on nutrition which could be incorporated within a policy to increase food production.

There are two main difficulties in the formulation of this policy. Firstly, there is scepticism as to the benefits of such schemes as the School Feeding Programme which have already been tried and which tend to reach only children of affluent parents. Secondly, the field of nutrition covers many different Ministeries and coordination among them is not easy.

In spite of these limitations the Kenyan Government is determined to identify the nature and scope of the nutrition problem in Kenya, to formulate the necessary policy and to devise the appropriate machinery for putting it into action. A WHO expert will already have submitted his report and recommendations to this effect.

In the future expectation of a more integrated nutrition policy, the Government is considering several priority undertakings which would have an impact on the Kenyan diet.

Kenya is in the paradoxical position of having a large milk supply - about 800,000 litres/day - and relatively high incidence of protein deficiency. Milk supply and distribution are complex issues with implications reaching beyond the narrow field of nutrition. Moreover, since the Kenya Cooperative Creamery has an accumulated deficiency of K £ 1.25 m, the Government has additional reasons for finding a viable solution to problems of the milk market.

In 1971 Kenya imported about £ 1.9 m of edible vegetable oils and fats, when the ecological and climatic conditions of Kenya are basically favourable to oilseed crop production. A UNIDO report of November 1972 makes some detailed and specific proposals on developing the production and processing of oil crops, and the Government gives top priority to the accomplishment of these recommendations.

The Ministry of Industry has also studied a number of investment opportunities, broadly in the food field, to which it attaches priority and which would benefit from liberal Government investment incentives. These include the manufacture of milk biscuits, frozen foods and the processing and canning or dehydration of vegetables.

While none of these projects is specifically aimed at nutrition, the implementation of any one of them would be a step forward in the development of the food industry in Kenya, and would contribute to the rising rate of economic progress.

The scope for an industry-based initiative in protein food development

The Kenyan Government, in the pursuit of its goal for economic and industrial development, plans priority, and indeed preference, on the private sector, although in meat and milk in the food sector there are two notable cases of Government intervention. Nairobi, as the "de facto" centre of industry in East Africa, gives a clear impression of being a thriving business centre and the regional headquarters for Kenya or East Africa of many large international and domestic enterprises. The market in Kenya is relatively small, comprising about 12 million inhabitants of whom about 3 million, or 500 thousand families, are in the cash economy for repeat-purchase consumer goods. The consumer goods market in Kenya is lively, compact and competitive, and companies operating in it generally earn good returns on their invested capital. It is clear, however, that Nairobi is exceptionally well developed in its business climate but that the remaining towns and country areas of Kenya present a rather different picture.

On its arrival in Kenya the JTF mission's working hypothesis was to investigate the problems and opportunities of developing a project concept in high protein weaning goods. Our judgement is that this is not a practical proposition for the JTF at the present time. The major reasons for this are, firstly that it would be anomalous for the JTF to act on its own initiative until the Government has formulated a nutrition policy; and secondly, that several large companies already well established in Kenya have either experience in high-protein food development or advanced plans for launching protein-rich products on the Kenyan market. It is possible that, at some later stage, the JTF could assume a positive rôle in assisting present developments to be made available to the more vulnerable consumer groups, but this is unlikely to be possible before 1974. The JTF hopes that the Kenyan Government and the agencies of the UN system will give every possible assistance and encouragement to local companies in their efforts to market protein-rich foods, and especially to bring those within the reach of the more vulnerable consumers. In our opinion strong local companies, who have the experience and motivation to succeed in this difficult field, offer better prospects than any endeavour by the JTF.

Although a traditional weaning food-type project is not a realistic proposition at the present time, there are two opportunities which lend themselves to industry participation backed by the JTF. These are the milk industry and the oilseed crop programme.

a) The Milk Industry

As already stated above, Kenya is in the paradoxical situation of having a relatively high incidence of PCM among pre-school age children, and a relatively large supply of liquid milk. At the same time, the milk industry has implications, economic and political, beyond the terms of reference of the JTF mission. However, two new factors serve to emphasize the importance of reviewing the alternative strategies of the Kenya Creamery Cooperative (KCC); the UK's admission to the EEC and the financial problems of the KCC itself.

For several years the KCC has depended to a great extent on its ability to export processed milk products - butter, cheese, skimmed milk powder - and these amount to about 40% of the total daily milk supply of 800,000 litres. These products are not now as profitable as they once were, the markets for them are less assured now that the UK is a member of the EEC and, owing to increasingly attractive prices for milk at the farm gate, the supply is maintained at relatively high levels often leading to heavy surpluses going to waste.

We realize that the foreign exchange earnings from exported milk products are a vital consideration. At the same time Kenya is in the privileged position of having an abundant supply of the most efficient source of protein for children - liquid milk. We therefore believe that the Government should discuss new ways of stimulating the consumption of liquid milk among pre-school age children, especially in the city areas, but also in the more far-flung rural areas in the dry regions. These methods should extend beyond the existing differences in the price of milk between the urban and rural areas. The JTF has discussed this question with a leading company in the dairy products field: we shall reply with specific suggestions of proven means of stimulating milk consumption. In the longer run, however, the need is for an educational campaign at all levels which emphasizes to mothers and children the pleasurable benefits of drinking milk: it is most important that milk is not presented as a medicine.

From the nutritional point of view there is a need to stimulate the consumption of milk especially among the vulnerable groups. From the business point of view there is a need to improve the profitability of the KCC, whose financial condition is the ultimate responsibility of the Government. We are aware that the Ministry of Agriculture is deeply involved in all aspects of the management of the KCC and is backed by some local and expatriate experts experienced in the development of the milk industry. Nevertheless we believe that there are two approaches to improving the KCC's profitability, on which work should be intensified.

Firstly, there should be investigations into the use of milk waste, especially of whey, as a useful animal feed. At present, the whey is not used in any significant quantities. This is not only a waste of a useful by-product from milk processing but is also a potential threat to the environment. Milk waste is probably one of the most significant, untapped sources of protein and the technology exists for extracting the unwanted minerals from the milk waste to yield an efficient source of edible proteins. The KCC should initiate a programme of investigation into the market demand, for pig-feeding for example, for milk waste products and the technical processes required. Recent advances indicate that the extracted proteins, using reverse osmosis, can be used for human consumption and the main problems lie in the handling of the whey before processing and the disposal of the water afterwards. The use of whey for animal feeding has an interesting aspect related to the dairy industry itself: by manufacturing whey blocks, similar to salt blocks, calf-losses in dairy herds can be reduced thus reducing mortality rates, and increasing the rate of stock growth.

Secondly, the KCC should investigate possibilities of extending its product range even further. While in the short term this might increase its financial burden by greater R & D expenditures and increased investment in fixed assets and working capital, in the longer term this diversification programme would serve both to improve KCC's profitability and to increase the impact on the nutritional status of the population. Products that might be investigated are milk-based beverages, ice-cream, milk biscuits, filled milks, condensed and evaporated milks and yogourt. The JTF has already begun discussions with ICP members to draw up specific proposals on the possible diversification of KCC's product range, bearing in mind that KCC has already done a great deal of work on these and similar products.

The JTF's working hypothesis is that KCC should consider a new stage in its development involving a larger stake in the milk market to include products aimed specifically at improving Kenya's nutritional status. Such an intensification of KCC's operations suggests the need for examining alternative structures of KCC itself, without in any way changing the basic relationship between KCC and the farmer. One approach which has considerable 'a priori' advantages would be to 'farm out' on a concession or management contract basis some or all of the processing plants currently operated by KCC. In this way KCC would retain its position of a milk marketing agency buying milk from the farmers and selling it to the processing plants, but would be freed of the commercial risks of converting liquid milk into milk-based products. Moreover, the JTF is wholly convinced that in Kenya orderly competition and the prospects for satisfactory returns on investment to private organizations are the most effective stimuli to ensuring the best use of Kenya's liquid milk production.

b) Oilseeds

In 1971 Kenya imported about £ 1.9 m (\$ 5.4 m) of edible vegetable oils(1). In total Kenya imports about 50,000 tons of oilseeds per year(2). The Ministry of Agriculture considers that a programme of research into the production of oil-bearing crop varieties is a priority, and the Ministry of Industry is concerned to ensure the modernization of the oil extracting industry which, owing to shortages of seed for crushing, has become obsolete in recent years.

Cottonseed is the only oilseed presently grown in Kenya in any significant quantities (13,000 tons in 1971), but this is not an important factor in the total demand for oil as cotton is used more for lint. Many experiments have been conducted in soyabean production, but these have been disappointing unless irrigation is available. Kenya's need is for high oil content crops which can thrive in non-irrigated areas, rather than for the cake from crops like soyabean. The UNIDO expert has identified five crops as especially suited to Kenya's conditions: sunflower, safflower, rapeseed, castorseed and linseed.

At first glance the question of oilseeds has little relevance to protein-rich foods. However, the mean daily intake of fats in Kenya is relatively low and this hinders the body's efficient use of protein. As a WHO/FAO/UNICEF report on malnutrition in Kenya said: "When a diet meets the recommended allowances, the chief nutrients should be represented approximately in the following ratio: Proteins 10 cal. %; fat 20 cal. %; carbohydrates cal. 70% It is obvious that a typical rural diet is without exception very low in fat content. The calories lacking from fat are replaced by the calories from protein (usually protein of vegetable) and carbohydrates. Because the consumption of calories was low in many cases, it is believed that an increase of fat in the diet (butter, vegetable oil, cheese etc.) would help to improve the feeding pattern and supplement the calories".

For these nutrition reasons alone the JTF supports the Government's and FAO's, and UNIDO's, concern to develop oilseed production and processing in Kenya. Moreover, the demand for oilseeds is likely to increase strongly in the remaining years of this decade and the long-run trend for oil prices is firm. Kenya should therefore explore not only the potential for self-sufficiency in edible oil production but also, in the longer term, the prospects for exporting oil or oilseeds. The successful implementation of an oilseed production programme would provide substantial quantities of valuable protein. The JTF therefore also has a long-range interest in such a project to make these proteins available to the more vulnerable consumer groups - weaning foods, for example - and to the livestock industry.

To accelerate the oilseed research programme the JTF has discussed at FAO headquarters and at FAO, Nairobi, the possibilities of extending the FAO/Fertilizer Industry Programme in Kenya to take in the oilseed research programme. Furthermore, there is a possibility that major bilateral financing will be available from 1975 through the Swedish International Development Agency for a 5-year project, to continue the work of the FAO/Fertilizer Programme and to incorporate in the Programme this research component. The JTF will consult members of ICP to see whether they would support this Programme by providing free, or at low cost, inputs such as seeds, fertilizers and pesticides, and any intangible assistance that would accelerate the implementation of the programme.

(1) Kenya's Abstract of Statistics 1972, Table 67(a), p. 62

(2) UNIDO: 'Development of Oilseed and vegetable oil production', 1972



**GUIDELINES FOR THE PREPARATION OF
FEASIBILITY STUDIES**

RURAL DEVELOPMENT PROJECTS

FAO/WORLD BANK

Cooperative Programme
March, 1975

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS — ROME

GUIDELINES FOR THE PREPARATION OF
RURAL DEVELOPMENT PROJECTS

Table of Contents

	<u>Page No.</u>
1. INTRODUCTION	1
2. FORM OF REPORT	4
3. TYPICAL REPORT OUTLINE	5
4. COMMENTARY ON REPORT OUTLINE	7

GUIDELINES FOR THE PREPARATION OF
RURAL DEVELOPMENT PROJECTS

1. INTRODUCTION

1.01 Historically, most agricultural projects financed by international lending institutions have emphasized one key element in the productive process, such as the provision of irrigation water or the development of a particular line of production such as a crop or livestock products. Increasingly in recent years, however, interest has turned to more comprehensive types of project involving a multi-sectorial approach to the problem of raising the incomes of the rural poor. The objective, as in the case of more conventional types of project, is basically to increase the farmers' productivity, but the tendency now is to link this with concurrent investment in more socially-oriented activities, like the provision of improved drinking water supplies, health and education facilities, etc. Such activities might be expected to reinforce the technical improvements in farming operations or to bring about advances in general standards of living of sections of the rural community not immediately realizable through productivity increases alone.

1.02 There is, of course, nothing new in a "package approach" to investment projects. Irrigation projects commonly include provision for on-farm development, access roads, the supply of farm inputs, etc. to ensure the maximum possible realization of the potential benefits from the new water supplies. A cotton development project might quite normally include facilities for processing and marketing as well as the basic component concerned with production of the crop itself. Such commodity specific projects and many other types often also include training facilities if the assurance of an adequate supply of skilled labour is essential to the success of the project. Land settlement projects inevitably are comprehensive in their scope, including such elements as roads, water supplies, housing, etc.

1.03 It is still possible to distinguish a separate category of projects which might be labelled "rural development projects". Although there is no precise borderline between these and some other types of project the particular characteristics of a rural development project might include the following:

- normally it would be concerned with improving the status of existing farmers in the project area (in contrast to land settlement projects which usually are concerned with the movement of new settlers into virgin, or sparsely populated, areas);
- generally the beneficiaries under a rural development project would be low income groups with per caput incomes below, say, 40% of the national average and probably occupying extremely small holdings;
- the numbers of individuals reached in some way by the project would normally exceed those covered by agricultural projects;

- while some elements of the project presumably would be concerned specifically with agricultural production, the main emphasis would be on rural infrastructural works and social facilities;
- while most rural development projects probably would be area specific, their geographical coverage on average might be expected to be broader than that of agricultural projects and dictated principally by socio-political factors;
- the organizational structure of rural development projects typically would require the cooperation and coordination of a greater than usual number of government or other entities;
- since rural development projects blend social and economic elements, the overall internal economic return would tend to be lower than customarily expected by international financing agencies for agricultural projects, although this is not necessarily so.

1.04 The one common element of rural development projects will be their orientation towards relatively large numbers of people in "low income" groups. Even the low income concept is open to a variety of different interpretations, but it is suggested herein that it should be related to an assessment of minimum human subsistence needs in individual countries or to a certain proportion of the national average per caput income. The benefits to these groups may take such forms as raising their agricultural output, improving their health and education, expanding the communications on which they depend, improving their housing, providing community facilities, such as drinking water supplies, meeting centres, etc. The approach might be multi-sectorial; that is, undertaking several of these activities simultaneously in one package. Alternatively, it might be sequential; dealing with one aspect at a time. Furthermore, the action might be directed to a locality, to a region, or to a nation as a whole. ^{1/} In either event, the orientation towards the target income group will be the prime consideration. Thus if a specific area or region is selected, it is assumed that it would be one where rural poverty is a particular problem and deserving of priority attention within the country. Similarly, if a single line of action is proposed, the expectation is that it will be the one considered most crucial to the well-being of the rural poor.

1.05 The present guidelines are intended for the use of national and international officials concerned with the preparation of such types of rural development projects. It is recognised that no single set of guidelines can be drawn up which would meet all of the situations likely to arise in practice. However, the very complexity of the task of formulating a rural development project and presenting it in a coherent way suggests that it would be useful to indicate how the types of distinguishing characteristics referred to above would find expression in the layout and presentation of a feasibility report. To the extent possible, the general format proposed for agricultural projects in other Guidelines in this series has been adhered to.

^{1/} Clearly, a project is rarely likely to be both multi-sectorial and nationally oriented.

1.06 While the guidelines are concerned with the presentation of the final feasibility, or "preparation", report it needs to be borne in mind that project preparation is only one stage in the so-called "project cycle". This normally proceeds in three steps (not always perfectly distinct) from project identification through project preparation to project appraisal. Project identification and preparation are the responsibility of the governments concerned (with or without external assistance) while project appraisal is the responsibility of the potential financing institution. In respect of rural development projects the cycle is likely to have two special features:

- (a) it is likely to stretch over a longer period because of the relative complexity of the project; and
- (b) the technical input required to take the project through the three phases preceding actual implementation may be more diverse than that required for conventional projects.

1.07 The implication of the foregoing is that the preparation of feasibility studies in this field is likely to require relatively heavy inputs of manpower and other resources. It is thus more than ever essential that governments and the local communities affected should commit themselves fully to the exercise at the project identification stage. It might be expected - and experience confirms this - that political considerations will assume more prominence during project identification than is normally the case. For obvious reasons, such considerations influence particularly the location of the project. At the identification stage it is also important to reach general agreement on the limits to the scale of the project.

1.08 Obviously no general guidance can be given here regarding scale since the criteria will vary considerably from case to case. Some relevant practical considerations are:

- (a) the implementation capacity of institutions to be involved in the project;
- (b) the willingness of the government to assume continuing responsibility for meeting recurrent costs associated with the project after the initial investment;
- (c) any requirement considered necessary to "tailor" the scale of the social element of the project to the scale of the directly productive element so as to improve its economic status;
- (d) possible reluctance by governments of countries with widespread poverty to allocate heavy inputs of resources to multi-sectorial projects in specific localities;
- (e) the level of funds likely to be available from potential financing institutions.

1.09 After such issues are resolved, strong project preparation teams representative of all institutional and other interests involved are required to undertake the work of completing the feasibility study along the agreed lines. Experience shows

that foreign assistance can play only a limited role in furthering this work. A common method is to assign overall responsibility for putting together the project and integrating the various components to a small group set up within one government agency, such as a planning authority. The specific studies and proposals for the different sectors are then performed by the relevant government bodies or by local consultants, guided and coordinated by the core group.

¶.10 Whatever the method chosen, the core group should have access to independent expertise to critically review the specialized fields (irrigation, civil engineering, disease control, etc.) in which proposals have been made by government agencies. These services can be provided by the FAO/World Bank Cooperative Programme, by consulting firms (usually in relation to a particular component of the project) or by other sources with experience in investment project analysis. The FAO/World Bank Cooperative Programme can also provide more general assistance to governments of the type represented by these guidelines.

2. FORM OF REPORT

2.01 The substance of a feasibility report (also commonly called a "project preparation" report) obviously is more important than its format. However, experience has shown that most projects are adaptable to a fairly common form of presentation. If this format is followed it is likely that both the writer and the reader of the report will benefit: the writer is thereby subjected to an intellectual discipline in putting forward the case for the project under review; and the reader, hopefully, benefits also from having a narrative which succinctly conveys only such information as is necessary for him to form his own conclusions regarding the worth of the project, both technically and economically.

2.02 Regardless of the type of project, the feasibility report must provide: the background and rationale for the project, including an analysis of the alternatives available; the detailed project proposals; the manner in which they would be implemented; and finally the economic (or social) justification for the project. Obviously, different elements of the report will need different emphasis and depth of treatment from case to case. Rural development projects, as a group, are likely to require more than usual attention to the development options considered before deciding on the one proposed, to organization and management, to the impact of the project on its beneficiaries and to the financial implications for the government.

2.03 The writer has to exercise mature judgement in determining the depth of treatment of the above points and other features of the feasibility report, including its length. As a rule of thumb, the objective might be a short main text of no more than 50 pages supported by a series of annexes, possibly in a separate volume. As far as possible, the main text should present the project in a form in which a layman can understand it, reserving specialized back-up information (including maps, charts and tables) for the annexes.

3. TYPICAL REPORT OUTLINE

3.01 Following is an outline of a typical feasibility report on a rural development project presented in the form of a Table of Contents for such a report. The remainder of the text of these Guidelines is in the nature of an elaboration of the Table of Contents and follows the same sequence.

SUMMARY AND CONCLUSIONS

I. INTRODUCTION

II. BACKGROUND

- A. The Country and its Characteristics
- B. Current Economic Situation
- C. Importance of Agriculture in the Economy and Recent Achievements
- D. Income Distribution and Poverty

III. RURAL DEVELOPMENT STRATEGY AND PROJECT CONCEPT

- A. Rural Development Programme
- B. The Project Concept
- C. Selection of Project Area

IV. THE PROJECT AREA

A. Physical Features

- Climate
- Geology, Soils, Topography
- Water resources and drainage

B. Economic Base

- Agriculture and Livestock
- Other primary sector activities
- Other economic activities

C. Social Features

- Land tenure and size of holdings
- Population and migration
- Labour supply and employment
- Income levels

D. Infrastructure and Social Services

- Roads, bridges and transport facilities
- Water and electricity services
- Storage and marketing facilities
- Social services

E. Government and Private Institutional Structures

National and Provincial Governments
Local Government
Agricultural institutions

V. THE PROJECT

- A. Description
- B. Detailed Features
 - Farm Development
 - Supporting Infrastructure and Equipment
 - Supporting Services
 - Social Services
- C. Implementation Schedule
- D. Cost Estimates
 - Capital Cost Estimates
 - Annual Cost Estimates
- E. Financing
- F. Procurement

VI. ORGANIZATION AND MANAGEMENT

- A. Central Authority
- B. Ancillary Entities

VII. PROJECT BENEFITS AND JUSTIFICATION

- A. Economic Benefits
- B. Social Benefits
- C. Sensitivity Analysis

VIII. FINANCIAL IMPLICATIONS FOR GOVERNMENT

IX. OUTSTANDING ISSUES

- A. Policy Issues
- B. Measures to be taken before Appraisal

ANNEXES

4. COMMENTARY ON REPORT OUTLINE

SUMMARY AND CONCLUSIONS

0.01 The main purpose of the summary and conclusions is to give the reader very briefly the essential elements of the project. The section should cover in not more than two/three pages: project priority, purpose and rationale, location and scope, beneficiaries, main components, development period, cost estimates and anticipated financial and economic results.

I. INTRODUCTION

1.01 The introduction should mention very briefly the reasons behind the decision to prepare the project, and its major objectives, together with a history of preparation work. It should identify the authorities with major responsibility and those cooperating within the country, and indicate any external assistance received (UNDP, FAO, FAO/World Bank, consultants, etc.).

II. BACKGROUND

2.01 The purpose of this chapter is to describe the national setting - physical, political, social and economic - for rural development. It should in this way demonstrate the need for a project in rural development and the level of commitment of government to the project approach. It is at this point that the tendency for reports to become discursive is greatest and the writer should exercise strict discipline to ensure that only material directly pertinent to the project is presented.

A. The Country and its Characteristics

2.02 A brief description of the major geographical and physical features, population, and the regional distribution of natural resources should be provided here.

B. Current Economic Situation

2.03 This section should cover only any features of recent economic developments which have a bearing on the proposed project and on the alternatives studied.

C. Importance of Agriculture in the Economy and Recent Achievements

2.04 The text should again bear directly on the project which is to be proposed, particularly with a view to providing the setting for the directly productive elements of the project as distinct from the social elements.

D. Income Distribution and Poverty

2.05 A discussion of income distribution and poverty has obvious importance in the preparation of a rural development project since such projects are intended to benefit primarily low income groups. The information presented at this point should serve to establish the framework for the eventual justification of the selection of a particular region, locality or line of action for priority attention under the project. It should cover available information on income distribution on a national basis and give a regional or social dimension to the data. It should identify as closely as possible the rural poor and the main target group (e.g. the poorest 40% of the population) to be assisted by the project.

III. RURAL DEVELOPMENT STRATEGY AND PROJECT CONCEPT

3.01 The main purpose of this chapter is to explain how the project inserts itself into a realistic rural development policy and how and where to approach the problem.

A. Rural Development Programmes

3.02 The current government strategy and ongoing and planned programmes to alleviate poverty in the rural areas should be described and discussed. The section should contain a concise description of the institutions responsible for development and social services, and any existing mechanisms for coordination, on a national basis.

B. The Project Concept

3.03 This section should weigh up alternative means of promoting development in the region or among the target group described in Chapter II (Section D) and should justify in broad terms the approach to be adopted in the project. The section should weigh the various options open, their likely impact on production and living standards and any associated disadvantages. For instance, if a commodity specific approach to improving farm incomes is advocated over a multi-sectorial regional development approach, the reasons (e.g. low cost, wide applicability, technological simplicity, administrative practicability, etc.) should be reviewed. The reasons for rejecting any other project proposals also should be given.

C. Selection of Project Area

3.04 This section follows the discussion of income distribution and poverty and the description of existing and planned rural development programmes. It should justify the selection of the particular area or region (if the project is location specific) and assess its priority for development in terms of the incidence of poverty, the inadequacy of existing programmes or investments, and its potential. It is possible that political considerations may play an important role in selecting the area, and if so, these should be brought out.

IV. THE PROJECT AREA

4.01 The purpose of this chapter is to highlight the particular advantages and problems of development in the area selected, to review the resource base and to identify the potential for improving the standards of living of its population. As in Chapter II, the descriptive material should be restricted to that which has a direct bearing on the proposed project. The presentation should be essentially interpretive: summary tables may be presented to illustrate the current situation but all detailed material should be assigned to annexes.

A. Physical Features

4.02 Physical features to be described should cover the main geographical and topographical features of the area and should relate the area to other important features of the country as a whole. The principal objective is to show that the climate and soils are suitable for the crops (or types of livestock production) proposed.

Climate

4.03 This should cover rainfall (monthly, annual, intensity variation), temperatures, humidity, etc. It is important to bring out limiting factors such as the incidence of hurricanes or typhoons, frosts or droughts.

Geology, soils, topography

4.04 All land in the project area should be described in sufficient detail to allow the main positive and limiting factors to be analysed and assessed. Where possible, land classification maps at a scale not smaller than 1:50,000, using the USBR system with standards modified in keeping with local physical and economic conditions should be prepared.

Water resources and drainage

4.05 Surface and underground resources should be described where relevant. Usually, this would be done from the viewpoint of the potential for irrigation and of the need for drainage under high rainfall conditions, but it may also have a bearing on the possible provision of drinking water facilities.

B. Economic Base

4.06 Agriculture and livestock resources should be described briefly and the major features quantified. The importance of these sectors in the economy of the region, the proportion of people employed in these activities, the area and output of major products and an approximate estimate of the value of these products should be given. Recent trends should be noted, while the relative importance of the sector to be assisted under the project should be emphasized.

4.07 Other primary sector activities (e.g. forestry, fishery, mining) of importance in the area should be reviewed in the same level of detail.

4.08 Other economic activities such as agro-industries and rural handicrafts should be carefully considered. If data are available, the number of families engaged in secondary activities should be indicated, with at least an approximate estimate of the total value of their products, so as to obtain an idea of their relative importance in the rural economy.

C. Social Features

4.09 Social features of the project area should be described under appropriate sub-headings, of which the following are likely to be most generally applicable.

Land tenure and size of holdings

4.10 This should refer to the proportions of owner-cultivators, tenant-cultivators and hired labour. Where possible, the size of holdings should be related to types of tenure. The description should be dynamic in the sense that any changes in land tenure resulting from agrarian reform or settlement also should be referred to. The depth of treatment of the whole subject should vary depending upon whether or not land reform or land consolidation is an integral component of the project.

Population and migration

4.11 Data should be given illustrating such aspects as density per square kilometre, pressure of population on the cultivated area, dependency ratios and the literacy rate. It is important to define the rural population; often small towns and their so-called "urban population" are large villages, mostly rural. Wherever migration is an important factor, annual or seasonal flows should be judged and, if possible, quantified.

4.12 Labour supply and employment figures may not be readily available and may have to be judged from sample surveys. A distinction should be made between self-employed persons, dependents and wage labourers. Employment should be categorized according to principal occupations and an attempt should be made to quantify the proportion consistently unemployed or under-employed.

4.13 Income levels will have been referred to earlier (see para 3.04) in connection with the selection of the project area for special attention. At this point, any more detailed data available for the project area should be referred to. Other indicators of standards of living (housing, health, nutrition, etc.) should be reviewed.

D. Infrastructure and Social Services

4.14 The amount of treatment given to these features of the project area will depend largely on whether the project itself will have related components. Again the writer will have to exercise mature judgement in this respect. Elements most likely to require attention are shown below.

4.15 Roads, bridges and transport facilities: Mileage of different classes of roads, number of major bridges and the annual tonnage of goods moved by road transport. Numbers of vehicles serving the area and an assessment of recent growth rates.

4.16 Water and electricity services within the region should be briefly described. The number of families served directly should be quantified, and an estimate made of the number of people served by public facilities, such as street-corner taps, etc. Ongoing improvement programmes should be evaluated briefly.

4.17 Storage and marketing facilities: A concise description should be given of the marketing facilities, including those for agricultural inputs, and any related agro-industries.

4.18 Social services available in the area, such as hospitals, dispensaries, primary and high schools, etc., should be quantified, with estimates of the number of persons served annually (e.g. number of beds in the hospitals, school enrolment). The state of upkeep of these facilities may be briefly described (e.g. maintenance of buildings, school furniture, etc.). Major disease problems and possibilities of control should be discussed.

E. Government and Private Institutional Structure

4.19 The respective responsibilities of national and provincial Governments in the administration of economic development and other governmental activities within the area should be spelled out, to set the stage for the organization and management proposals made under project. A discussion of provincial Government structure, autonomy and capacity is required.

4.20 Local government institutions most probably will have responsibility for certain features of the project and these should be referred to. If there is any restriction on the size or type of project that this administrative level may deal with, this should be mentioned.

4.21 Agricultural institutions, government and private, operating in or serving the project area, such as those concerned with staff training, extension and farmer/farm family training, credit disbursement and veterinary and other supporting services, require special attention, including assessment of the capability of their personnel. Where relevant, the importance of farm associations, trade unions, religious groups, etc. also should be discussed.

V. THE PROJECT

A. Description

5.01 This section should very briefly define the objectives, location, size, components, costs, phasing, manner of execution, pattern of production and expected results of the project. It is intended to give a concise summary of the project components and objectives before going on to more detailed descriptions.

B. Detailed Features

5.02 Each of the components of the project should be described precisely and in quantitative terms, reference being made to fuller details and specifications in Annexes. The description should give a clear picture of the type of works, equipment or services proposed and the quantities involved. Estimates of cost should be avoided in this section since they can more appropriately be treated in detail in Section D of the present chapter.

5.03 Most projects, whether of the rural development or the conventional agricultural production type, consist of one or several major components with which are linked more numerous relatively minor elements. While the former may be treated as separate items, it usually will be convenient to group the latter in some form or other for purposes of presentation. It is difficult to suggest any hard and fast rules for such groupings but, in general, they should be the same as those followed subsequently for the presentation of costs to facilitate cross-referencing. In this connection, some relevant considerations are:

- (a) capital cost items should be distinguished from recurrent cost items capitalized for financing purposes;
- (b) civil works might usefully be distinguished from equipment to be provided under the project (for construction under force account or for operation and maintenance);
- (c) off-farm works should be distinguished from on-farm works;
- (d) directly productive investments (such as investments in irrigation facilities) might be separated out from (i) production support infrastructure (roads, ports, markets, storage facilities, etc.) and (ii) social infrastructure (domestic water supplies, health clinics, schools, rural electrification, etc.).

An indicative breakdown of project components is given in Appendix A.

5.04 Even allowing for the fact that detailed descriptions of these items are included in annexes, it may sometimes be desirable to adopt two levels of description in the main text. The foregoing account should be sufficiently succinct to maintain an overall view of the project and the interlocking nature

of its various components. If further detail regarding any of the individual components is considered necessary in the main text, it is suggested that it should be elaborated in separate sections immediately following this one.

5.05 Farm Development: This section should refer to the number of farms and the acreages involved and the types of work to be undertaken (e.g. land clearing, fencing, irrigation system, drainage, pasture development, farm buildings, farm machinery and equipment, breeding stock, etc.). These works normally are carried out by farmers, or on account of the farmers, with the assistance under the project taking the form of the provision of credit. The proposed actions may be illustrated by the preparation of a series of farm models representing the various types of enterprise to be included in the project. Alternatively (and this may be more appropriate when a large number of small and very diverse farms are involved) a series of plans may be drawn up for homogeneous sub-areas and brought together as a global plan for the project area as a whole.

5.06 Supporting Infrastructure and Equipment: This consists of off-farm works undertaken to directly support farm enterprises. It may take the form of land consolidation, irrigation and drainage facilities, access roads, facilities for marketing, packing and processing, etc. Equipment for construction may be included in the project when, for example, an irrigation department is responsible for undertaking the construction work under force account. Similar provision may be made for equipment required for the operation and maintenance of project works. Such equipment might include vehicles, bulldozers, graders, etc.

5.07 Infrastructural works should be designed to a sufficient degree of detail to permit the significant construction work quantities to be estimated to an accuracy of some 10% as a basis for cost estimates of the same order of accuracy. In projects including settlement, for example, a semi-detailed outline of the settlement pattern would be required in order to indicate length of roads, nature of water development and distribution, area to be developed, etc.

5.08 Where the degree of accuracy of the preliminary estimates is difficult to determine because of lack of adequate engineering data, or where the degree of possible error is greater than considered tolerable (e.g. where the economic justification of the project is likely to be marginal), it would normally be necessary to have detailed engineering studies. This is often so in the case of roads, but it might also apply, for example, to irrigation canals. Buildings such as warehouses, silos and market places should be designed with local construction methods and materials and the possibility of a "self-help" contribution in view.

Supporting Services

5.09 Supporting services to be financed under the project might include those for any project authority as well as extension services, foreign technical assistance, etc.

5.10 Extension services are a major input in almost all rural development projects. The number, grade and availability of additional extension officers, their transportation, office equipment and housing requirements should be given. If the project includes staff or farmer training components, their relationship to the national or provincial training system should be described: the required facilities should be listed by components such as classrooms, dormitories, laboratory equipment, etc.

5.11 Foreign technical assistance might be required for initial back-stopping of the project by way of management, straight technical support, investigations for follow-up projects, etc. Such assistance is usually expensive and the need should be fully justified in each case.

Social Services

5.12 The inclusion of various components which are not directly productive is one of the typical characteristics of a rural development project. In most developing countries the greatest potential for improving the quality of life of the rural poor is through the provision of facilities concerned with health and disease control, education, drinking water and electricity supplies and village community facilities such as recreation halls. Obviously, there may be a degree of overlap between these components and others of a more directly productive nature: e.g. improved access roads required for marketing and the supply of inputs will have other benefits of a social nature.

5.13 Health and disease control may be important project actions and in this section the investments required for them should be stated. The particular prophylactic measures necessary should be described. Hospitals and dispensaries to be included in the project, their staffing, number of beds and particular emphasis, if any, should be mentioned. The number of people to be given adequate protection by the project should be given.

5.14 Education is frequently a project component, and might include improvement of school facilities, and investment in new schools and their equipment. It may include training facilities for agriculture or for rural works programme supervisors. The number of such institutions, their annual throughput and their requirement of land should be mentioned. Provision of training material, laboratory facilities, etc., should be detailed in this section.

5.15 Water and electricity supplies. Improvement of domestic water supplies is a component in many rural development projects. The source and method of water supply should be described, with the number of private and public outlets and an estimate of the number of families they are expected to serve. The number and capacity of the major items such as pumps and storage tanks are also required. If supply of electricity is one of the project items, the source of supply, the mileage of transmission, number of transformers, the number of meters and the peak demand should be indicated.

C. Implementation Schedule

5.16 This section should describe the time phasing of all project actions including non-farm and on-farm works. The description might be supported by a detailed graphic presentation such as an arrow diagram and bar chart.

5.17 This section is very important because from it is derived the phasing of expenditure, and hence the disbursement pattern of the loan. As different lending agencies have different lending practices, it is necessary to tailor the project to the requirements of the particular agency in view. If, for instance, the project implementation period first in mind were longer than the normal disbursement period of the financing agency, it may be possible to divide the project into two stages involving two loans with shorter disbursement periods. Most commonly, the disbursement periods for agricultural projects are of three to five years, but longer periods are required, for example, in the case of projects involving tree crops.

D. Cost Estimates

5.18 The importance of accurate cost estimates cannot be over-emphasized. They are the basis for determining the economic and financial viability of the project and also for funding the project. All costs should be broken down to show the foreign exchange and local currency elements. The foreign cost component includes the cost of items fully imported (including any foreign technical assistance) and the import component of goods manufactured locally. Data in this Section should be presented in such a way as to facilitate cross-referencing with Section B above ("Detailed Features").

Capital Cost Estimates

5.19 Estimates for capital costs should be presented in summary in the main report and a detailed breakdown with supporting data, including quantities and unit costs, should be given in an annex. The heads under which the costs are summarized in the main report should correspond as closely as possible to the approach adopted in the earlier technical description of the detailed features of the project (see para 5.03).

5.20 Cost estimates for any major supporting infrastructure, such as irrigation works and feeder roads, should be based on justified unit rates and quantities derived from the preliminary layout and design. Where items of equipment for construction of the main works or for project operation and maintenance will be procured under the project, these should be shown separately. Equipment should be costed on the basis of the manufacturer's or agent's quotations (CIF).

5.21 On-farm development works, etc. are usually costed by multiplication from detailed development plans for representative farm models. However, since the farms involved in rural development projects are likely to be very small and lacking in homogeneity an alternative approach might be considered more

appropriate. This would involve the preparation of cropping patterns for homogeneous (physical, human and economic) sub-areas and the derivation of all investment costs (as well as input requirements and benefits) first on a per hectare basis for such sub-areas and then as an aggregate for the sub-areas and for the project area as a whole. If this approach is adopted, a limited number of farm models would still be required to show the possible farm income and cash flow.

5.22 Recurrent costs. World Bank policy normally restricts financing to capital expenditure. However, the concept of capital expenditure has been broadened to include the inventory of materials required for the initial level of operations or to raise it to a higher level, either starting up expenses of projects, technical services to prepare studies, train local personnel, or give advice to local institutions, etc. The operating costs of executive agencies (extension, etc.) during the development period of the project have also been eligible for Bank financing. Such expenses have been treated as "capital" items on the reasoning that they create "assets" which are expected to produce a stream of goods and services over a period of years.

5.23 Contingencies. To all cost estimate factors should be added for physical and price contingencies, the percentage varying according to the degree of confidence in the estimates and the possibility of price escalation. Although the price escalation factor is left out of account in the economic analysis of the project (see para 7.06) it obviously is of importance in drawing up the financing plan.

Annual Cost Estimates

5.24 As stated before, certain recurrent costs may be capitalized during the construction period. Whether or not required for the capital cost estimates, estimates of annual costs for the project authority and for participating farms are required for the economic analysis of the project over its full life.

5.25 Project operation and maintenance costs. Operation costs are calculated on the basis of salaries and other recurrent expenses and maintenance costs usually on an appropriate percentage basis of the capital costs of the works. Replacement costs for project equipment are estimated so as to set aside sufficient funds to replace the component at the end of its useful life. Any annual payments for amortization of the capital cost should be deducted from the annual provision for replacement.

5.26 Farmers' operating costs are derived from farm budgets for representative model farms multiplied by the number of farms to give aggregates for the project. Essentially, farm budgeting is an accounting exercise, documenting cash payments and receipts. Payments, or costs, include items such as seed, fertilizers, hired labour, sprays, operating costs of transport and machinery, water charges, etc., as well as overhead costs such as management, depreciation, insurance, etc. Since family labour is not a cash cost it should be excluded from consideration at this stage.

5.27 Although particular elements of the farm budgets are referred to at different places in the main text, it is convenient to present the full analysis in one annex. This should include a cash flow table covering the life of the project, which would at the same time indicate the credit needs of the farmer. In this connection, a distinction should be made between long, medium and short term credit according to whether the loan is for fixed improvement, for purchase of machinery and equipment, or for annual operations. The farm budgets should also be taken into account when assessing the repayment capacity of the farmers in relation to the terms and conditions suggested for the loans (interest rate, repayment period and schedule, grace period). The format of a typical cash flow table is set out in Appendix B.

E. Financing

5.28 It will usually not be possible or desirable for the feasibility study team to put forward a full financing plan for the project. However, in order to help those who will make the financing decisions, the feasibility report should forecast year by year over the investment period of the project, the total expenditures, divided into foreign currency costs and local costs. Other factors relevant at this point are the proportion of the loan which might be borne by the international financing agency, bilateral sources (in the event of joint external financing), the government, farmers and other participants. Understandably, international financial institutions and bi-lateral agencies usually are most interested in meeting the foreign exchange costs of a project, but increasingly a proportion of the local currency costs also is being financed. This has special importance in relation to the financing of rural development projects, since the social and infrastructural components of such projects might have low foreign exchange costs.

F. Procurement

5.29 Most multilateral and bilateral financing agencies have their own requirements for procurement and this section should explain the relevance of these to the items to be purchased under the project and how the conditions would be met. For example, the World Bank requires that borrowers obtain goods and services (other than consultants' services) on an international competitive basis unless another procedure, more appropriate to the circumstances, has been agreed between the Bank and the borrower. Procurement under loans for agricultural credit, livestock or for rural works programmes consisting of many small sub-projects, does not require international competitive bidding, except where items can be suitably contracted or procured in bulk, for example, for fertilizer. Minor civil works and small equipment items are typically provided under World Bank projects by bidding among local contractors, or local suppliers, or sometimes by "force account" using the resources of a public agency of the government or the borrower. Again, this has special relevance to rural development projects.

VI. ORGANIZATION AND MANAGEMENT

6.01 This chapter is concerned with how the project would be executed and operated and with the suitability of the administrative management proposed for those purposes. In general, it should show which agency would be the borrower, which entity or entities would be responsible for the various aspects of project execution and operation, and how the funds provided for the project by the external financing agency and the government would be channelled to the ultimate borrowers.

6.02 The formulation of satisfactory organizational proposals for rural development projects usually is even more difficult than for conventional agricultural projects because of the multi-sectorial approach and the need for coordination among various department and government agencies, on the one hand, and between government and elected groups, on the other. Furthermore, rural development projects involve larger numbers of people than most other types of project. Institutions to look specifically after the rural poor generally are lacking and the beneficiaries themselves disorganized. The cooperative movement may sometimes make a contribution in this direction. Frequently, however, the cooperative movement comes under the control of the bigger farmers and village traders, and in its existing form may not be suitable for the mass of the rural poor. This leaves project planners with the unenviable task of setting up new organizations. On the other hand, a radical transformation of an existing agency (e.g. cooperatives or Department of Rural Development) may be equally difficult, unless the Government is willing to make substantial changes.

6.03 Bearing these considerations in mind, and the multiplicity of different types of rural development project likely to be formulated, only some very general suggestions can be made as to the form of presentation and contents of this part of the report. In this connection, it is useful to begin with the central agency or agencies and then to refer to ancillary entities.

A. Central Authority

6.04 Some rural development projects, particularly those of a multi-sectorial type, will involve a number of government agencies (such as Ministries of Planning, Agriculture, Public Works, Health, Education, etc.). In such cases it clearly is essential that machinery should be established to ensure coordination at the centre. Such coordination might be required in the first place at the policy making level and in the second place at the day-to-day management level. For the latter purpose, it may be preferable to set up a special entity at the national level to deal with the rural development project, particularly if the project is to be one of a succession of similar undertakings. Similar entities may be required at lower administrative levels (regional, provincial, local, etc.) since rural development projects frequently will be concerned with small-scale community facilities normally financed through local budgets.

6.05 Wherever possible, the coordination of different levels of project organization should be such that it ensures a flow of information and ideas from the central organization to the field, and even more important, from the field to the policy-makers. The functions and powers of the various tiers and their place in decision-making should be clearly stated in the report. The responsibilities for coordination should be given. If there is a Board or Commission for Rural Development, its legal status, functions and powers should be explained. It is very important to assess the capabilities of the proposed staff at the different levels and to evaluate their past performance. An organizational chart should be included.

6.06 An illustration is given below in summary form of an organizational structure adopted for an on-going rural development project financed by the World Bank.

Illustration : Under a World Bank financed rural development project in Mauritius provision was made for the strengthening of the project planning and execution capability of existing government machinery. The overall programme would be coordinated by the Rural Development Committee of the Cabinet (RDCC) chaired by the Prime Minister. Its secretariat would be under the Rural Development Unit (RDU) of the Ministry of Economic Planning. This unit would include a Project Manager, senior officers to coordinate the Village Improvement Programme and staff for a small monitoring section. The Project Manager would be the secretary of the RDCC. The Project planning units of individual key ministries would be strengthened to ensure: (a) close ministerial cooperation in the follow-up maintenance and staffing of the projects; and (b) an adequate pipeline of labour-intensive projects for follow-up phases. The construction of all projects would be carried out by the Development Works Corporation, a corporate body established under the Development Works Corporation Act of 1970.

B. Ancillary Entities

6.07 The ancillary entities likely to be involved in the project at the local or field level might include:

- (a) Local government bodies (such as Local Councils);
- (b) Research and extension services;
- (c) Marketing bodies (including cooperatives);
- (d) Farmers' organizations.

6.08 In each case the precise role of the entity in the implementation of the project should be spelt out, together with a convincing explanation of the ability of the entity to undertake the responsibilities assigned to it. Staff requirements and availabilities should be given special attention and, where necessary, the qualifications and experience of key personnel should be given.

6.09 Where credit to farmers is involved, the credit institutions should be assessed in relation to capacity to undertake the proposed lending programme. Points to be considered are legal charter, capitalization, powers and functions, direction, management, delegation of authority, internal organization, staffing, accountancy and control, auditing, financial accounts and projections, operating policies, terms and conditions of loans, security requirements, procedures for loan appraisal, disbursement and collection and the loan repayment record.

6.10 In the chapter as a whole the objective should be not to explain the institutions as such but to explain how the project would be organized and managed and the contribution which the various entities would make towards that end.

VII. PROJECT BENEFITS AND JUSTIFICATION

7.01 As indicated in the Introduction, one single distinguishing feature of rural development projects is their orientation towards the low-income rural poor. This section of the report should therefore conclusively demonstrate that the proposed project actions would in fact lead to an alleviation of the condition of the target income group. Broadly, the typical project might be expected to:

- (a) Improve the general quality of life of this group and their productivity by giving them easier access to social services and amenities such as communications;
- (b) raise the average incomes of such groups directly through investments in means of production (an approach which implies that the individual in low-income group is the operator of an agricultural holding however small that might be).

7.02 Various techniques for weighting economic and social benefits which lead to the production of a quantified estimate of a project's social returns have been developed in recent years ^{1/}. While these techniques provide a useful means of comparing the relative advantages of alternative projects they rely heavily on the subjective allocation of accounting prices

^{1/} The Little-Mirrlees approach as in : Little, I.M.D. and Mirrlees, J.A.: Manual of Industrial Project Analysis in Developing Countries, Vol. II, OECD, Paris, 1969. The Sen-Dasgupta-Marglin approach as in: Guidelines for Project Evaluation, United Nations, New York, 1972.

to all project ingredients and products. They also tend to disguise many of the advantages and disadvantages of a project which, if brought out into the open, could be weighed individually in the decision-making process. Until these techniques are refined, the distinction between economic and social benefits should be clearly drawn in justifying rural development projects, and the presentation should concentrate on providing a properly informed basis for decision-making. This may involve calculation of the economic return on the directly productive elements of the project, of which the costs and benefits can usually be quantified, and making a separate qualitative assessment of the non-quantifiable social elements.

A. Economic Benefits

7.03 A "conventional" assessment should be made of the economic benefits of the "directly productive" elements of the project. The most common method of doing this is by measuring the project's "internal economic return", which may be defined as "the rate of discount at which the total present value of costs incurred during the life of the project is equal to the total present value of benefits accruing during the life of the project." Typically in an investment project costs are bunched at the beginning of the project while benefits only begin to accrue after a lapse of time. The application of a discount factor enables these costs and benefits to be compared on a level footing on the basis of their present value.

7.04 To calculate the internal economic return it is necessary to construct a table, which should be given in an annex, showing the costs and benefits and the incremental income directly attributable to the productive elements as they accrue each year during the life of the project. Using Present Value Tables ^{1/}, the rate of return may then be arrived at relatively simply as illustrated in summary form in Appendix C.

7.05 In a project with several distinct production elements (e.g. agriculture, forestry, fisheries, agro-industries) the economic viability of each element should be demonstrated. As in conventional agricultural production projects, the incremental output resulting from project actions should be projected over the life of the project along with expected prices to derive the benefit stream referred to above. The cost stream (investment and operating costs) should only include those items directly associated with the production process i.e. the social costs dealt with in the following section should be excluded from the analysis at this point.

7.06 The analysis here should be strictly economic rather than financial, i.e. it should reflect the point of view of the economy as a whole rather than the standpoint of the individual farmer or other entities participating

^{1/} These are readily available in a number of sales publications.

in the project. Some items taken into account in the financial analysis which need a different treatment in the internal economic return calculation are:

- (a) Subsidies which operate to reduce input costs must be added back into the market prices for such inputs;
- (b) Price contingencies are omitted from project costs since it is assumed that inflationary trends will affect the prices of inputs and outputs equally;
- (c) Market prices, foreign exchange and labour costs should be "shadow priced" if the market rates are considered to be artificially distorted;
- (d) Taxes, duties, etc. are not deducted from the income stream as in the financial analysis since they represent transfer payments within the community;
- (e) Depreciation is not taken into account since the internal economic return calculation assumes a closed cycle.

B. Social Benefits

7.07 Social benefits should be presented in the context of the project's basic objectives. If the principal aim of a project is to develop a more equitable distribution of income in the target population, emphasis should be placed in the presentation on the extent to which it meets this goal. Similarly, if the objective is employment, a thorough assessment of the job-creating impact of the project should be made. Some of the following indicators may be used in the assessment of social benefits.

Income Distribution

7.08 The extent to which the income of the poorest sector of the population is improved as a result of the project relative to that of the other sectors should be shown. Ideally projections of income levels for each income quintile of the population in the project area, with and without the project, should be presented. Alternatively a comparison might be made of projected incomes for each farm size group.

Employment

7.09 The extent to which the project reduces underemployment and unemployment should be assessed. Generally this can be quantified in terms of the number of man-years of work created by the project, with a distinction being made between permanent employment and employment during the construction phase. The number of jobs created might be compared to the project increase

in the labour force. When a deliberate attempt has been made to substitute machinery by labour the cost (in financial terms) should be shown.

Access to Land

7.10 If the project contains a land reform element, the distribution of land utilization rights, by type of tenure, before and after the project should be demonstrated.

Internal Migration

7.11 In countries with serious metropolitan growth problems it may be useful to attempt an evaluation on the probable impact of the project on rural-urban migration. If satisfactory urban accounting or planning costs are available the savings in inescapable urban absorption costs resulting from reduced internal migration may be included among the economic benefits of the project.

Nutrition and Health

7.12 If the project is sited in an area with recognized nutritional or health problems, its expected impact on these problems should be assessed. If a quantitative assessment is possible the nutritional effects may be best described in relation to expected levels of daily protein and calorie intake relative to present levels.

Other Living Standard Indicators

7.13 Levels of access to utilities and services before and after project implementation relative to national rural and urban averages might be compared. Items reviewed could include domestic water, electricity, telephone, roads, schools, health services, markets, agricultural supplies, extension services, etc.

C. Sensitivity Analysis

7.14 "Sensitivity analysis" is usually undertaken to indicate the sensitivity of the economic calculations to changes in some of the more important basic assumptions made, such as average yields, "shadow" labour and foreign exchange rates, etc. It involves simply the substitution of alternative figures for the ones originally chosen and a recalculation of the results in terms of the internal economic return. In order to illustrate the implication of "loading" a rural development project with social infrastructure and services it may be useful to demonstrate the sensitivity of the rate of return calculated on the productive elements of the project to successive increments in the costs attributable to these social elements.

VIII. FINANCIAL IMPLICATIONS FOR GOVERNMENT

8.01 A clear understanding is needed of the budgetary implications of the project at all levels of government. Although an analysis should be made of the financial implications for involved agencies of the proposed project in its investment phase, particular attention needs to be given to identifying additional recurrent costs consequent upon project implementation. Such costs include maintenance of works (roads, irrigation schemes, water supplies, etc.) and the continued provision of services (extension, health, education, etc.). A detailed analysis should be presented in an annex to show the projected annual balance between costs to government and revenues likely to be generated from sources such as dues and taxation. This analysis would indicate the requirements for, and level of, subsidies and could be used to demonstrate a need to restrict the scope and scale of a project because of difficulties of raising revenues locally. Where a country is known to have foreign exchange limitations, the annex should also present a projected foreign exchange balance (value of exports less imports) for the project.

IX. OUTSTANDING ISSUES

A. Policy Issues

9.01 There are few projects which have no outstanding policy issues which must be resolved by governments before the project can be appraised for financing. Commonly these start at the identification stage in relation to the selection of the particular project area or type, or even the decision to make a real effort at achieving rural development. Thereafter decisions are particularly needed on the level of support to be given to a particular group of people or region or the level of water charges to small farmers, or the agency which will have the leadership of the proposed activities. While most policy issues should have been resolved by the time the preparation report is completed, in some cases presentation of the report and a clear statement of the outstanding issues is the only way of reaching high level decisions.

B. Measures To Be Taken Before Appraisal

9.02 Frequently the proposed project activities are based on judgement using an inadequate data base. The preparation group may need to complete surveys, air photography, or to present additional data after the report is presented, but prior to appraisal. This may be acceptable, but judgement has to be exercised as to the reliability of existing data -- in other words, it should clear that the work to be completed after the report is written will serve only to substantiate the main project proposals and will not change them significantly.

ANNEXES

In order to keep the main project preparation report as short and concise as possible, all detailed supporting material should be assigned to annexes. In practice, the most common procedure is for the annexes to be prepared first and to constitute the basis for the main text.

The number, themes and completeness of annexes presented will, of course, depend very much on the scope of the project under preparation. They may also reflect the composition of the preparation team. Generally, however, annexes may be grouped into two broad classifications: annexes which are descriptive of the existing situation, institutions and development potential taken on the national and project level, and annexes which provide material to support the proposed elements of the project and its justification. The first class of annexes provides supporting information for the "Background" "Rural Development Strategy and Project Concept" and "Project Area" chapters of the main report, while the second class of annexes provides detailed material to support the later chapters of the report.

Like the main report, annexes should be kept short and only enter into detail to the level that is considered necessary for an understanding of the project and its justification. The depth of treatment accorded to any aspect of the project dealt with in annexes depends essentially on the judgement of the project preparation team. Annexes designed to support major or more critical project elements necessarily must be more detailed than those which present material to support less important elements. The level of detail presented may also reflect the degree of information available, but care should be taken not to overload annexes with irrelevant information just because the data happen to be available. Where much information of marginal relevance, but of possible interest to an appraisal team, has been gathered during project preparation, this may usefully be assembled as a collection of working documents to which reference may be made in the report.

PROJECT COMPONENTSINDICATIVE BREAKDOWN

1. Farm Development (in the description: how many farms and which areas are involved)
 11. Short-term credit
 12. On-farm investment (medium and long-term credit)
 - Land improvement (land clearing, levelling, etc.)
 - Plantations (trees and semi-permanent crops)
 - Pasture investments (pasture establishment, fencing, etc.)
 - On-farm stocking
 - Farm implements and farm buildings
 - Farm irrigation facilities
 - Other
 13. Food Aid - Subsidies
2. Collective Productive Infrastructure
 21. Land consolidation
 - Agrarian reform
 - Cadastre
 - Settlement establishment
 - Land consolidation
 - Other
 22. Irrigation rehabilitation
 23. New Irrigation
 - Extension of an irrigation network
 - Collective pumps
 - Wells (including pumps)
 - Pilot Schemes
 - Engineering designs
 - Other
 24. Drainage
 25. Flood Control
 26. Other
3. Supporting Production Infrastructure and Services
 31. Roads and communications
 32. Marketing
 - storage
 - transportation
 - working fund
 - market places
 - other

33. Agricultural Research
34. Livestock breeding units
35. Seed production (including seedling production; seed-processing plant)
36. Agro-industries
 - dairy
 - group processing equipment
 - other
37. Machinery (in rural development projects, machinery is not, usually, an on-farm investment); including workshops
38. Plant disease and pest control
39. Animal health (including health campaigns)
4. Forestry
 41. Reafforestation (most often include erosion control)
 42. Erosion control, watershed management
 43. Forest exploitation
 44. Forest industries
5. Fisheries
6. Supporting project services
 61. Project administration and development services
 - central services
 - extension services
 - other services and agricultural institutions
 - technical assistance
 62. Farmers organization
 63. Training
 64. Studies
7. Social Investments and Services
 71. Health
 - equipment (including the corresponding services)
 - disease control
 72. Schools
 73. Water supply
 74. Electricity supply
 75. Village equipment (sanitation, collective buildings, recreational, etc.)

Sample Format of Cash Flow Table for Individual Project Farm 1/

	<u>Pre-</u> <u>project</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Year 7</u>	<u>Year 8</u>	<u>Year 9</u>	<u>Year 10</u>
1. <u>Cash Inflow</u>											
(a) Total sales (gross revenue) <u>2/</u>											
(b) Farmer's contribution <u>3/</u>											
(c) Long-term loans <u>4/</u>											
(d) Seasonal loans <u>5/</u>											
(e) Total Cash Inflow											
2. <u>Cash Outflow</u>											
(a) Investment costs <u>6/</u>											
(b) Recurrent costs <u>7/</u>											
(c) Total Cash Outflow											
3. <u>Cash Balance before Debt Service</u>											
4. <u>Loan Outstanding</u>											
5. <u>Debt Service</u>											
(a) Interest on seasonal loan <u>8/</u>											
(b) Interest on long-term loan <u>9/</u>											
(c) Seasonal loan amortization <u>10/</u>											
(d) Long-term loan amortization <u>11/</u>											
(e) Total Debt Service Payments											
6. <u>Cash Balance after Debt Service</u> <u>12/</u>											
7. <u>Taxes</u>											
8. <u>Net Cash Balance</u> <u>13/</u>											
9. <u>Cumulative Cash Balance</u> <u>14/</u>											

(see footnotes overleaf)

Sample Format of Cash Flow Table for Individual Project FarmNotes

- 1/ This table is usually derived from a series of more detailed tables concerned with the Investment Costs, Recurrent Costs, Gross Revenue, etc.
- 2/ Value of total farm production valued at farm-gate prices less the value of subsistence consumption and crops used for another enterprise such as livestock production.
- 3/ It is assumed that where farmers have resources of their own they will contribute towards the development of their farms, complementing investment loans. Here, their actual cash contributions only are entered.
- 4/ The volume of these loans should be decided on the basis of investment requirements, farmer's own capacity to contribute and incremental cash benefits. The loan disbursement period should be kept as short as warranted by the cash flow.
- 5/ Normal seasonal credit may be utilized if the institutions exist in the project area.
- 6/ Capital expenditure here is the actual real capital put on the farm each year, regardless of any grace periods on loans, etc., and provision must be made for replacements where necessary. No provision is made for cost escalation at this point.
- 7/ Includes all cash costs (seeds, fertilizers, hired labour, operating costs of transport and machinery, etc.) valued at farm-gate prices as well as overhead costs such as management, depreciation, insurance, etc. Since family labour is not a cash cost it should be excluded from consideration at this stage. Financial charges, although of a current nature, are also excluded at this point.
- 8/ Interest on average loan.
- 9/ Interest on loan outstanding at end of year (from Item 4).
- 10/ Since this loan is for less than 12 months it should equal Item 1(d).
- 11/ Amortization of long-term loan as in Item 1(o). Amortization should be in equal annual instalments and there may be need for a grace period of up to 3-5 years after disbursement.
- 12/ Item 3 minus Item 5(e).
- 13/ Item 6 minus Item 7.
- 14/ Summation of Item 8.

Sample Calculation of Internal Economic Return

(The internal economic return is about 17.5%)

Year 1/	Investment costs	(Incremental) operating costs	(Incremental) gross returns	Balance (3)-(2)-(1)	Present value of 1 at 18% annual discount 2/	Discounted balance (4)x(5)	Present value of 1 at 17% annual discount 2/	Discounted balance (4)x(7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	100	10	-	-110	0.847	-93.2	0.855	-94.0
2	400	20	-	-420	0.718	-301.6	0.731	-307.0
3	300	20	100	-220	0.609	-134.0	0.624	-137.3
4	200	30	200	-30	0.516	-15.5	0.534	-16.0
5	-	30	200	+170	0.437	+74.3	0.456	+77.5
6	-	30	210	+180	0.370	+66.6	0.390	+70.2
7	-	30	220	+190	0.314	+59.7	0.333	+63.3
8	-	30	230	+200	0.266	+53.2	0.285	+57.0
9	-	30	240	+210	0.225	+47.2	0.243	+51.0
10-20	-	30	250	+220	1.050	+231.0	1.177	+258.9
Total						-12.3		+23.6

1/ Covers life of project.

2/ Present value figures taken from standard tables in a variety of publications. The annual discount percentage is arrived at on a trial and error basis by successive approximation until the algebraical sum of the discounted balance column is as close as possible to zero. It is useful to remember that after a period of 30-40 years all the discounted values become negligible.



**GUIDELINES FOR THE PREPARATION OF
FEASIBILITY STUDIES**

RURAL DEVELOPMENT PROJECTS

FAO/WORLD BANK

Cooperative Programme
March, 1975

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS — ROME

GUIDELINES FOR THE PREPARATION OF
RURAL DEVELOPMENT PROJECTS

Table of Contents

	<u>Page No.</u>
1. INTRODUCTION	1
2. FORM OF REPORT	4
3. TYPICAL REPORT OUTLINE	5
4. COMMENTARY ON REPORT OUTLINE	7

GUIDELINES FOR THE PREPARATION OF

RURAL DEVELOPMENT PROJECTS

1. INTRODUCTION

1.01 Historically, most agricultural projects financed by international lending institutions have emphasized one key element in the productive process, such as the provision of irrigation water or the development of a particular line of production such as a crop or livestock products. Increasingly in recent years, however, interest has turned to more comprehensive types of project involving a multi-sectorial approach to the problem of raising the incomes of the rural poor. The objective, as in the case of more conventional types of project, is basically to increase the farmers' productivity, but the tendency now is to link this with concurrent investment in more socially-oriented activities, like the provision of improved drinking water supplies, health and education facilities, etc. Such activities might be expected to reinforce the technical improvements in farming operations or to bring about advances in general standards of living of sections of the rural community not immediately realizable through productivity increases alone.

1.02 There is, of course, nothing new in a "package approach" to investment projects. Irrigation projects commonly include provision for on-farm development, access roads, the supply of farm inputs, etc. to ensure the maximum possible realization of the potential benefits from the new water supplies. A cotton development project might quite normally include facilities for processing and marketing as well as the basic component concerned with production of the crop itself. Such commodity specific projects and many other types often also include training facilities if the assurance of an adequate supply of skilled labour is essential to the success of the project. Land settlement projects inevitably are comprehensive in their scope, including such elements as roads, water supplies, housing, etc.

1.03 It is still possible to distinguish a separate category of projects which might be labelled "rural development projects". Although there is no precise borderline between these and some other types of project the particular characteristics of a rural development project might include the following:

- normally it would be concerned with improving the status of existing farmers in the project area (in contrast to land settlement projects which usually are concerned with the movement of new settlers into virgin, or sparsely populated, areas);
- generally the beneficiaries under a rural development project would be low income groups with per caput incomes below, say, 40% of the national average and probably occupying extremely small holdings;
- the numbers of individuals reached in some way by the project would normally exceed those covered by agricultural projects;

- while some elements of the project presumably would be concerned specifically with agricultural production, the main emphasis would be on rural infrastructural works and social facilities;
- while most rural development projects probably would be area specific, their geographical coverage on average might be expected to be broader than that of agricultural projects and dictated principally by socio-political factors;
- the organizational structure of rural development projects typically would require the cooperation and coordination of a greater than usual number of government or other entities;
- since rural development projects blend social and economic elements, the overall internal economic return would tend to be lower than customarily expected by international financing agencies for agricultural projects, although this is not necessarily so.

1.04 The one common element of rural development projects will be their orientation towards relatively large numbers of people in "low income" groups. Even the low income concept is open to a variety of different interpretations, but it is suggested herein that it should be related to an assessment of minimum human subsistence needs in individual countries or to a certain proportion of the national average per caput income. The benefits to these groups may take such forms as raising their agricultural output, improving their health and education, expanding the communications on which they depend, improving their housing, providing community facilities, such as drinking water supplies, meeting centres, etc. The approach might be multi-sectorial; that is, undertaking several of these activities simultaneously in one package. Alternatively, it might be sequential; dealing with one aspect at a time. Furthermore, the action might be directed to a locality, to a region, or to a nation as a whole. ^{1/} In either event, the orientation towards the target income group will be the prime consideration. Thus if a specific area or region is selected, it is assumed that it would be one where rural poverty is a particular problem and deserving of priority attention within the country. Similarly, if a single line of action is proposed, the expectation is that it will be the one considered most crucial to the well-being of the rural poor.

1.05 The present guidelines are intended for the use of national and international officials concerned with the preparation of such types of rural development projects. It is recognised that no single set of guidelines can be drawn up which would meet all of the situations likely to arise in practice. However, the very complexity of the task of formulating a rural development project and presenting it in a coherent way suggests that it would be useful to indicate how the types of distinguishing characteristics referred to above would find expression in the layout and presentation of a feasibility report. To the extent possible, the general format proposed for agricultural projects in other Guidelines in this series has been adhered to.

^{1/} Clearly, a project is rarely likely to be both multi-sectorial and nationally oriented.

1.06 While the guidelines are concerned with the presentation of the final feasibility, or "preparation", report it needs to be borne in mind that project preparation is only one stage in the so-called "project cycle". This normally proceeds in three steps (not always perfectly distinct) from project identification through project preparation to project appraisal. Project identification and preparation are the responsibility of the governments concerned (with or without external assistance) while project appraisal is the responsibility of the potential financing institution. In respect of rural development projects the cycle is likely to have two special features:

- (a) it is likely to stretch over a longer period because of the relative complexity of the project; and
- (b) the technical input required to take the project through the three phases preceding actual implementation may be more diverse than that required for conventional projects.

1.07 The implication of the foregoing is that the preparation of feasibility studies in this field is likely to require relatively heavy inputs of manpower and other resources. It is thus more than ever essential that governments and the local communities affected should commit themselves fully to the exercise at the project identification stage. It might be expected - and experience confirms this - that political considerations will assume more prominence during project identification than is normally the case. For obvious reasons, such considerations influence particularly the location of the project. At the identification stage it is also important to reach general agreement on the limits to the scale of the project.

1.08 Obviously no general guidance can be given here regarding scale since the criteria will vary considerably from case to case. Some relevant practical considerations are:

- (a) the implementation capacity of institutions to be involved in the project;
- (b) the willingness of the government to assume continuing responsibility for meeting recurrent costs associated with the project after the initial investment;
- (c) any requirement considered necessary to "tailor" the scale of the social element of the project to the scale of the directly productive element so as to improve its economic status;
- (d) possible reluctance by governments of countries with widespread poverty to allocate heavy inputs of resources to multi-sectorial projects in specific localities;
- (e) the level of funds likely to be available from potential financing institutions.

1.09 After such issues are resolved, strong project preparation teams representative of all institutional and other interests involved are required to undertake the work of completing the feasibility study along the agreed lines. Experience shows

that foreign assistance can play only a limited role in furthering this work. A common method is to assign overall responsibility for putting together the project and integrating the various components to a small group set up within one government agency, such as a planning authority. The specific studies and proposals for the different sectors are then performed by the relevant government bodies or by local consultants, guided and coordinated by the core group.

1.10 Whatever the method chosen, the core group should have access to independent expertise to critically review the specialized fields (irrigation, civil engineering, disease control, etc.) in which proposals have been made by government agencies. These services can be provided by the FAO/World Bank Cooperative Programme, by consulting firms (usually in relation to a particular component of the project) or by other sources with experience in investment project analysis. The FAO/World Bank Cooperative Programme can also provide more general assistance to governments of the type represented by these guidelines.

2. FORM OF REPORT

2.01 The substance of a feasibility report (also commonly called a "project preparation" report) obviously is more important than its format. However, experience has shown that most projects are adaptable to a fairly common form of presentation. If this format is followed it is likely that both the writer and the reader of the report will benefit: the writer is thereby subjected to an intellectual discipline in putting forward the case for the project under review; and the reader, hopefully, benefits also from having a narrative which succinctly conveys only such information as is necessary for him to form his own conclusions regarding the worth of the project, both technically and economically.

2.02 Regardless of the type of project, the feasibility report must provide: the background and rationale for the project, including an analysis of the alternatives available; the detailed project proposals; the manner in which they would be implemented; and finally the economic (or social) justification for the project. Obviously, different elements of the report will need different emphasis and depth of treatment from case to case. Rural development projects, as a group, are likely to require more than usual attention to the development options considered before deciding on the one proposed; to organization and management, to the impact of the project on its beneficiaries and to the financial implications for the government.

2.03 The writer has to exercise mature judgement in determining the depth of treatment of the above points and other features of the feasibility report, including its length. As a rule of thumb, the objective might be a short main text of no more than 50 pages supported by a series of annexes, possibly in a separate volume. As far as possible, the main text should present the project in a form in which a layman can understand it, reserving specialized back-up information (including maps, charts and tables) for the annexes.

3. TYPICAL REPORT OUTLINE

3.01 Following is an outline of a typical feasibility report on a rural development project presented in the form of a Table of Contents for such a report. The remainder of the text of these Guidelines is in the nature of an elaboration of the Table of Contents and follows the same sequence.

SUMMARY AND CONCLUSIONS

I. INTRODUCTION

II. BACKGROUND

- A. The Country and its Characteristics
- B. Current Economic Situation
- C. Importance of Agriculture in the Economy and Recent Achievements
- D. Income Distribution and Poverty

III. RURAL DEVELOPMENT STRATEGY AND PROJECT CONCEPT

- A. Rural Development Programme
- B. The Project Concept
- C. Selection of Project Area

IV. THE PROJECT AREA

A. Physical Features

- Climate
- Geology, Soils, Topography
- Water resources and drainage

B. Economic Base

- Agriculture and Livestock
- Other primary sector activities
- Other economic activities

C. Social Features

- Land tenure and size of holdings
- Population and migration
- Labour supply and employment
- Income levels

D. Infrastructure and Social Services

- Roads, bridges and transport facilities
- Water and electricity services
- Storage and marketing facilities
- Social services

E. Government and Private Institutional Structures

National and Provincial Governments
Local Government.
Agricultural institutions

V. THE PROJECT

- A. Description
- B. Detailed Features
 - Farm Development
 - Supporting Infrastructure and Equipment
 - Supporting Services
 - Social Services
- C. Implementation Schedule
- D. Cost Estimates
 - Capital Cost Estimates
 - Annual Cost Estimates
- E. Financing
- F. Procurement

VI. ORGANIZATION AND MANAGEMENT

- A. Central Authority
- B. Ancillary Entities

VII. PROJECT BENEFITS AND JUSTIFICATION

- A. Economic Benefits
- B. Social Benefits
- C. Sensitivity Analysis

VIII. FINANCIAL IMPLICATIONS FOR GOVERNMENT

IX. OUTSTANDING ISSUES

- A. Policy Issues
- B. Measures to be taken before Appraisal

ANNEXES

4. COMMENTARY ON REPORT OUTLINE

SUMMARY AND CONCLUSIONS

0.01 The main purpose of the summary and conclusions is to give the reader very briefly the essential elements of the project. The section should cover in not more than two/three pages: project priority, purpose and rationale, location and scope, beneficiaries, main components, development period, cost estimates and anticipated financial and economic results.

I. INTRODUCTION

1.01 The introduction should mention very briefly the reasons behind the decision to prepare the project, and its major objectives, together with a history of preparation work. It should identify the authorities with major responsibility and those cooperating within the country, and indicate any external assistance received (UNDP, FAO, FAO/World Bank, consultants, etc.).

II. BACKGROUND

2.01 The purpose of this chapter is to describe the national setting - physical, political, social and economic - for rural development. It should in this way demonstrate the need for a project in rural development and the level of commitment of government to the project approach. It is at this point that the tendency for reports to become discursive is greatest and the writer should exercise strict discipline to ensure that only material directly pertinent to the project is presented.

A. The Country and its Characteristics

2.02 A brief description of the major geographical and physical features, population, and the regional distribution of natural resources should be provided here.

B. Current Economic Situation

2.03 This section should cover only any features of recent economic developments which have a bearing on the proposed project and on the alternatives studied.

C. Importance of Agriculture in the Economy and Recent Achievements

2.04 The text should again bear directly on the project which is to be proposed, particularly with a view to providing the setting for the directly productive elements of the project as distinct from the social elements.

D. Income Distribution and Poverty

2.05 A discussion of income distribution and poverty has obvious importance in the preparation of a rural development project since such projects are intended to benefit primarily low income groups. The information presented at this point should serve to establish the framework for the eventual justification of the selection of a particular region, locality or line of action for priority attention under the project. It should cover available information on income distribution on a national basis and give a regional or social dimension to the data. It should identify as closely as possible the rural poor and the main target group (e.g. the poorest 40% of the population) to be assisted by the project.

III. RURAL DEVELOPMENT STRATEGY AND PROJECT CONCEPT

3.01 The main purpose of this chapter is to explain how the project inserts itself into a realistic rural development policy and how and where to approach the problem.

A. Rural Development Programmes

3.02 The current government strategy and ongoing and planned programmes to alleviate poverty in the rural areas should be described and discussed. The section should contain a concise description of the institutions responsible for development and social services, and any existing mechanisms for coordination, on a national basis.

B. The Project Concept

3.03 This section should weigh up alternative means of promoting development in the region or among the target group described in Chapter II (Section D) and should justify in broad terms the approach to be adopted in the project. The section should weigh the various options open, their likely impact on production and living standards and any associated disadvantages. For instance, if a commodity specific approach to improving farm incomes is advocated over a multi-sectorial regional development approach, the reasons (e.g. low cost, wide applicability, technological simplicity, administrative practicability, etc.) should be reviewed. The reasons for rejecting any other project proposals also should be given.

C. Selection of Project Area

3.04 This section follows the discussion of income distribution and poverty and the description of existing and planned rural development programmes. It should justify the selection of the particular area or region (if the project is location specific) and assess its priority for development in terms of the incidence of poverty, the inadequacy of existing programmes or investments, and its potential. It is possible that political considerations may play an important role in selecting the area, and if so, these should be brought out.

IV. THE PROJECT AREA

4.01 The purpose of this chapter is to highlight the particular advantages and problems of development in the area selected, to review the resource base and to identify the potential for improving the standards of living of its population. As in Chapter II, the descriptive material should be restricted to that which has a direct bearing on the proposed project. The presentation should be essentially interpretive: summary tables may be presented to illustrate the current situation but all detailed material should be assigned to annexes.

A. Physical Features

4.02 Physical features to be described should cover the main geographical and topographical features of the area and should relate the area to other important features of the country as a whole. The principal objective is to show that the climate and soils are suitable for the crops (or types of livestock production) proposed.

Climate

4.03 This should cover rainfall (monthly, annual, intensity variation), temperatures, humidity, etc. It is important to bring out limiting factors such as the incidence of hurricanes or typhoons, frosts or droughts.

Geology, soils, topography

4.04 All land in the project area should be described in sufficient detail to allow the main positive and limiting factors to be analysed and assessed. Where possible, land classification maps at a scale not smaller than 1:50,000, using the USBR system with standards modified in keeping with local physical and economic conditions should be prepared.

Water resources and drainage

4.05 Surface and underground resources should be described where relevant. Usually, this would be done from the viewpoint of the potential for irrigation and of the need for drainage under high rainfall conditions, but it may also have a bearing on the possible provision of drinking water facilities.

B. Economic Base

4.06 Agriculture and livestock resources should be described briefly and the major features quantified. The importance of these sectors in the economy of the region, the proportion of people employed in these activities, the area and output of major products and an approximate estimate of the value of these products should be given. Recent trends should be noted, while the relative importance of the sector to be assisted under the project should be emphasized.

4.07 Other primary sector activities (e.g. forestry, fishery, mining) of importance in the area should be reviewed in the same level of detail.

4.08 Other economic activities such as agro-industries and rural handicrafts should be carefully considered. If data are available, the number of families engaged in secondary activities should be indicated, with at least an approximate estimate of the total value of their products, so as to obtain an idea of their relative importance in the rural economy.

C. Social Features

4.09 Social features of the project area should be described under appropriate sub-headings, of which the following are likely to be most generally applicable.

Land tenure and size of holdings

4.10 This should refer to the proportions of owner-cultivators, tenant-cultivators and hired labour. Where possible, the size of holdings should be related to types of tenure. The description should be dynamic in the sense that any changes in land tenure resulting from agrarian reform or settlement also should be referred to. The depth of treatment of the whole subject should vary depending upon whether or not land reform or land consolidation is an integral component of the project.

Population and migration

4.11 Data should be given illustrating such aspects as density per square kilometre, pressure of population on the cultivated area, dependency ratios and the literacy rate. It is important to define the rural population; often small towns and their so-called "urban population" are large villages, mostly rural. Wherever migration is an important factor, annual or seasonal flows should be judged and, if possible, quantified.

4.12 Labour supply and employment figures may not be readily available and may have to be judged from sample surveys. A distinction should be made between self-employed persons, dependents and wage labourers. Employment should be categorized according to principal occupations and an attempt should be made to quantify the proportion consistently unemployed or under-employed.

4.13 Income levels will have been referred to earlier (see para 3.04) in connection with the selection of the project area for special attention. At this point, any more detailed data available for the project area should be referred to. Other indicators of standards of living (housing, health, nutrition, etc.) should be reviewed.

D. Infrastructure and Social Services

4.14 The amount of treatment given to these features of the project area will depend largely on whether the project itself will have related components. Again the writer will have to exercise mature judgement in this respect. Elements most likely to require attention are shown below.

4.15 Roads, bridges and transport facilities: Mileage of different classes of roads, number of major bridges and the annual tonnage of goods moved by road transport. Numbers of vehicles serving the area and an assessment of recent growth rates.

4.16 Water and electricity services within the region should be briefly described. The number of families served directly should be quantified, and an estimate made of the number of people served by public facilities, such as street-corner taps, etc. Ongoing improvement programmes should be evaluated briefly.

4.17 Storage and marketing facilities: A concise description should be given of the marketing facilities, including those for agricultural inputs, and any related agro-industries.

4.18 Social services available in the area, such as hospitals, dispensaries, primary and high schools, etc., should be quantified, with estimates of the number of persons served annually (e.g. number of beds in the hospitals, school enrolment). The state of upkeep of these facilities may be briefly described (e.g. maintenance of buildings, school furniture, etc.). Major disease problems and possibilities of control should be discussed.

E. Government and Private Institutional Structure

4.19 The respective responsibilities of national and provincial Governments in the administration of economic development and other governmental activities within the area should be spelled out, to set the stage for the organization and management proposals made under project. A discussion of provincial Government structure, autonomy and capacity is required.

4.20 Local government institutions most probably will have responsibility for certain features of the project and these should be referred to. If there is any restriction on the size or type of project that this administrative level may deal with, this should be mentioned.

4.21 Agricultural institutions, government and private, operating in or serving the project area, such as those concerned with staff training, extension and farmer/farm family training, credit disbursement and veterinary and other supporting services, require special attention, including assessment of the capability of their personnel. Where relevant, the importance of farm associations, trade unions, religious groups, etc. also should be discussed.

V. THE PROJECT

A. Description

5.01 This section should very briefly define the objectives, location, size, components, costs, phasing, manner of execution, pattern of production and expected results of the project. It is intended to give a concise summary of the project components and objectives before going on to more detailed descriptions.

B. Detailed Features

5.02 Each of the components of the project should be described precisely and in quantitative terms, reference being made to fuller details and specifications in Annexes. The description should give a clear picture of the type of works, equipment or services proposed and the quantities involved. Estimates of cost should be avoided in this section since they can more appropriately be treated in detail in Section D of the present chapter.

5.03 Most projects, whether of the rural development or the conventional agricultural production type, consist of one or several major components with which are linked more numerous relatively minor elements. While the former may be treated as separate items, it usually will be convenient to group the latter in some form or other for purposes of presentation. It is difficult to suggest any hard and fast rules for such groupings but, in general, they should be the same as those followed subsequently for the presentation of costs to facilitate cross-referencing. In this connection, some relevant considerations are:

- (a) capital cost items should be distinguished from recurrent cost items capitalized for financing purposes;
- (b) civil works might usefully be distinguished from equipment to be provided under the project (for construction under force account or for operation and maintenance);
- (c) off-farm works should be distinguished from on-farm works;
- (d) directly productive investments (such as investments in irrigation facilities) might be separated out from (i) production support infrastructure (roads, ports, markets, storage facilities, etc.) and (ii) social infrastructure (domestic water supplies, health clinics, schools, rural electrification, etc.).

An indicative breakdown of project components is given in Appendix A.

5.04 Even allowing for the fact that detailed descriptions of these items are included in annexes, it may sometimes be desirable to adopt two levels of description in the main text. The foregoing account should be sufficiently succinct to maintain an overall view of the project and the interlocking nature

of its various components. If further detail regarding any of the individual components is considered necessary in the main text, it is suggested that it should be elaborated in separate sections immediately following this one.

5.05 Farm Development: This section should refer to the number of farms and the acreages involved and the types of work to be undertaken (e.g. land clearing, fencing, irrigation system, drainage, pasture development, farm buildings, farm machinery and equipment, breeding stock, etc.). These works normally are carried out by farmers, or on account of the farmers, with the assistance under the project taking the form of the provision of credit. The proposed actions may be illustrated by the preparation of a series of farm models representing the various types of enterprise to be included in the project. Alternatively (and this may be more appropriate when a large number of small and very diverse farms are involved) a series of plans may be drawn up for homogeneous sub-areas and brought together as a global plan for the project area as a whole.

5.06 Supporting Infrastructure and Equipment: This consists of off-farm works undertaken to directly support farm enterprises. It may take the form of land consolidation, irrigation and drainage facilities, access roads, facilities for marketing, packing and processing, etc. Equipment for construction may be included in the project when, for example, an irrigation department is responsible for undertaking the construction work under force account. Similar provision may be made for equipment required for the operation and maintenance of project works. Such equipment might include vehicles, bulldozers, graders, etc.

5.07 Infrastructural works should be designed to a sufficient degree of detail to permit the significant construction work quantities to be estimated to an accuracy of some 10% as a basis for cost estimates of the same order of accuracy. In projects including settlement, for example, a semi-detailed outline of the settlement pattern would be required in order to indicate length of roads, nature of water development and distribution, area to be developed, etc.

5.08 Where the degree of accuracy of the preliminary estimates is difficult to determine because of lack of adequate engineering data, or where the degree of possible error is greater than considered tolerable (e.g. where the economic justification of the project is likely to be marginal), it would normally be necessary to have detailed engineering studies. This is often so in the case of roads, but it might also apply, for example, to irrigation canals. Buildings such as warehouses, silos and market places should be designed with local construction methods and materials and the possibility of a "self-help" contribution in view.

Supporting Services

5.09 Supporting services to be financed under the project might include those for any project authority as well as extension services, foreign technical assistance, etc.

5.10 Extension services are a major input in almost all rural development projects. The number, grade and availability of additional extension officers, their transportation, office equipment and housing requirements should be given. If the project includes staff or farmer training components, their relationship to the national or provincial training system should be described; the required facilities should be listed by components such as classrooms, dormitories, laboratory equipment, etc.

5.11 Foreign technical assistance might be required for initial back-stopping of the project by way of management, straight technical support, investigations for follow-up projects, etc. Such assistance is usually expensive and the need should be fully justified in each case.

Social Services

5.12 The inclusion of various components which are not directly productive is one of the typical characteristics of a rural development project. In most developing countries the greatest potential for improving the quality of life of the rural poor is through the provision of facilities concerned with health and disease control, education, drinking water and electricity supplies and village community facilities such as recreation halls. Obviously, there may be a degree of overlap between these components and others of a more directly productive nature: e.g. improved access roads required for marketing and the supply of inputs will have other benefits of a social nature.

5.13 Health and disease control may be important project actions and in this section the investments required for them should be stated. The particular prophylactic measures necessary should be described. Hospitals and dispensaries to be included in the project, their staffing, number of beds and particular emphasis, if any, should be mentioned. The number of people to be given adequate protection by the project should be given.

5.14 Education is frequently a project component, and might include improvement of school facilities, and investment in new schools and their equipment. It may include training facilities for agriculture or for rural works programme supervisors. The number of such institutions, their annual throughput and their requirement of land should be mentioned. Provision of training material, laboratory facilities, etc., should be detailed in this section.

5.15 Water and electricity supplies. Improvement of domestic water supplies is a component in many rural development projects. The source and method of water supply should be described, with the number of private and public outlets and an estimate of the number of families they are expected to serve. The number and capacity of the major items such as pumps and storage tanks are also required. If supply of electricity is one of the project items, the source of supply, the mileage of transmission, number of transformers, the number of meters and the peak demand should be indicated.

C. Implementation Schedule

5.16 This section should describe the time phasing of all project actions including non-farm and on-farm works. The description might be supported by a detailed graphic presentation such as an arrow diagram and bar chart.

5.17 This section is very important because from it is derived the phasing of expenditure, and hence the disbursement pattern of the loan. As different lending agencies have different lending practices, it is necessary to tailor the project to the requirements of the particular agency in view. If, for instance, the project implementation period first in mind were longer than the normal disbursement period of the financing agency, it may be possible to divide the project into two stages involving two loans with shorter disbursement periods. Most commonly, the disbursement periods for agricultural projects are of three to five years, but longer periods are required, for example, in the case of projects involving tree crops.

D. Cost Estimates

5.18 The importance of accurate cost estimates cannot be over-emphasized. They are the basis for determining the economic and financial viability of the project and also for funding the project. All costs should be broken down to show the foreign exchange and local currency elements. The foreign cost component includes the cost of items fully imported (including any foreign technical assistance) and the import component of goods manufactured locally. Data in this Section should be presented in such a way as to facilitate cross-referencing with Section B above ("Detailed Features").

Capital Cost Estimates

5.19 Estimates for capital costs should be presented in summary in the main report and a detailed breakdown with supporting data, including quantities and unit costs, should be given in an annex. The heads under which the costs are summarized in the main report should correspond as closely as possible to the approach adopted in the earlier technical description of the detailed features of the project (see para 5.03).

5.20 Cost estimates for any major supporting infrastructure, such as irrigation works and feeder roads, should be based on justified unit rates and quantities derived from the preliminary layout and design. Where items of equipment for construction of the main works or for project operation and maintenance will be procured under the project, these should be shown separately. Equipment should be costed on the basis of the manufacturer's or agent's quotations (CIF).

5.21 On-farm development works, etc. are usually costed by multiplication from detailed development plans for representative farm models. However, since the farms involved in rural development projects are likely to be very small and lacking in homogeneity an alternative approach might be considered more

appropriate. This would involve the preparation of cropping patterns for homogeneous (physical, human and economic) sub-areas and the derivation of all investment costs (as well as input requirements and benefits) first on a per hectare basis for such sub-areas and then as an aggregate for the sub-areas and for the project area as a whole. If this approach is adopted, a limited number of farm models would still be required to show the possible farm income and cash flow.

5.22 Recurrent costs. World Bank policy normally restricts financing to capital expenditure. However, the concept of capital expenditure has been broadened to include the inventory of materials required for the initial level of operations or to raise it to a higher level, either starting up expenses of projects, technical services to prepare studies, train local personnel, or give advice to local institutions, etc. The operating costs of executive agencies (extension, etc.) during the development period of the project have also been eligible for Bank financing. Such expenses have been treated as "capital" items on the reasoning that they create "assets" which are expected to produce a stream of goods and services over a period of years.

5.23 Contingencies. To all cost estimate factors should be added for physical and price contingencies, the percentage varying according to the degree of confidence in the estimates and the possibility of price escalation. Although the price escalation factor is left out of account in the economic analysis of the project (see para 7.06) it obviously is of importance in drawing up the financing plan.

Annual Cost Estimates

5.24 As stated before, certain recurrent costs may be capitalized during the construction period. Whether or not required for the capital cost estimates, estimates of annual costs for the project authority and for participating farms are required for the economic analysis of the project over its full life.

5.25 Project operation and maintenance costs. Operation costs are calculated on the basis of salaries and other recurrent expenses and maintenance costs usually on an appropriate percentage basis of the capital costs of the works. Replacement costs for project equipment are estimated so as to set aside sufficient funds to replace the component at the end of its useful life. Any annual payments for amortization of the capital cost should be deducted from the annual provision for replacement.

5.26 Farmers' operating costs are derived from farm budgets for representative model farms multiplied by the number of farms to give aggregates for the project. Essentially, farm budgeting is an accounting exercise, documenting cash payments and receipts. Payments, or costs, include items such as seed, fertilizers, hired labour, sprays, operating costs of transport and machinery, water charges, etc., as well as overhead costs such as management, depreciation, insurance, etc. Since family labour is not a cash cost it should be excluded from consideration at this stage.

5.27 Although particular elements of the farm budgets are referred to at different places in the main text, it is convenient to present the full analysis in one annex. This should include a cash flow table covering the life of the project, which would at the same time indicate the credit needs of the farmer. In this connection, a distinction should be made between long, medium and short term credit according to whether the loan is for fixed improvement, for purchase of machinery and equipment, or for annual operations. The farm budgets should also be taken into account when assessing the repayment capacity of the farmers in relation to the terms and conditions suggested for the loans (interest rate, repayment period and schedule, grace period). The format of a typical cash flow table is set out in Appendix B.

E. Financing

5.28 It will usually not be possible or desirable for the feasibility study team to put forward a full financing plan for the project. However, in order to help those who will make the financing decisions, the feasibility report should forecast year by year over the investment period of the project, the total expenditures, divided into foreign currency costs and local costs. Other factors relevant at this point are the proportion of the loan which might be borne by the international financing agency, bilateral sources (in the event of joint external financing), the government, farmers and other participants. Understandably, international financial institutions and bi-lateral agencies usually are most interested in meeting the foreign exchange costs of a project, but increasingly a proportion of the local currency costs also is being financed. This has special importance in relation to the financing of rural development projects, since the social and infrastructural components of such projects might have low foreign exchange costs.

F. Procurement

5.29 Most multilateral and bilateral financing agencies have their own requirements for procurement and this section should explain the relevance of these to the items to be purchased under the project and how the conditions would be met. For example, the World Bank requires that borrowers obtain goods and services (other than consultants' services) on an international competitive basis unless another procedure, more appropriate to the circumstances, has been agreed between the Bank and the borrower. Procurement under loans for agricultural credit, livestock or for rural works programmes consisting of many small sub-projects, does not require international competitive bidding, except where items can be suitably contracted or procured in bulk, for example, for fertilizer. Minor civil works and small equipment items are typically provided under World Bank projects by bidding among local contractors, or local suppliers, or sometimes by "force account" using the resources of a public agency of the government or the borrower. Again, this has special relevance to rural development projects.

VI. ORGANIZATION AND MANAGEMENT

6.01 This chapter is concerned with how the project would be executed and operated and with the suitability of the administrative management proposed for those purposes. In general, it should show which agency would be the borrower, which entity or entities would be responsible for the various aspects of project execution and operation, and how the funds provided for the project by the external financing agency and the government would be channelled to the ultimate borrowers.

6.02 The formulation of satisfactory organizational proposals for rural development projects usually is even more difficult than for conventional agricultural projects because of the multi-sectorial approach and the need for coordination among various department and government agencies, on the one hand, and between government and elected groups, on the other. Furthermore, rural development projects involve larger numbers of people than most other types of project. Institutions to look specifically after the rural poor generally are lacking and the beneficiaries themselves disorganized. The cooperative movement may sometimes make a contribution in this direction. Frequently, however, the cooperative movement comes under the control of the bigger farmers and village traders, and in its existing form may not be suitable for the mass of the rural poor. This leaves project planners with the unenviable task of setting up new organizations. On the other hand, a radical transformation of an existing agency (e.g. cooperatives or Department of Rural Development) may be equally difficult, unless the Government is willing to make substantial changes.

6.03 Bearing these considerations in mind, and the multiplicity of different types of rural development project likely to be formulated, only some very general suggestions can be made as to the form of presentation and contents of this part of the report. In this connection, it is useful to begin with the central agency or agencies and then to refer to ancillary entities.

A. Central Authority

6.04 Some rural development projects, particularly those of a multi-sectorial type, will involve a number of government agencies (such as Ministries of Planning, Agriculture, Public Works, Health, Education, etc.). In such cases it clearly is essential that machinery should be established to ensure coordination at the centre. Such coordination might be required in the first place at the policy making level and in the second place at the day-to-day management level. For the latter purpose, it may be preferable to set up a special entity at the national level to deal with the rural development project, particularly if the project is to be one of a succession of similar undertakings. Similar entities may be required at lower administrative levels (regional, provincial, local, etc.) since rural development projects frequently will be concerned with small-scale community facilities normally financed through local budgets.

6.05 Wherever possible, the coordination of different levels of project organization should be such that it ensures a flow of information and ideas from the central organization to the field, and even more important, from the field to the policy-makers. The functions and powers of the various tiers and their place in decision-making should be clearly stated in the report. The responsibilities for coordination should be given. If there is a Board or Commission for Rural Development, its legal status, functions and powers should be explained. It is very important to assess the capabilities of the proposed staff at the different levels and to evaluate their past performance. An organizational chart should be included.

6.06 An illustration is given below in summary form of an organizational structure adopted for an on-going rural development project financed by the World Bank.

Illustration : Under a World Bank financed rural development project in Mauritius provision was made for the strengthening of the project planning and execution capability of existing government machinery. The overall programme would be coordinated by the Rural Development Committee of the Cabinet (RDCC) chaired by the Prime Minister. Its secretariat would be under the Rural Development Unit (RDU) of the Ministry of Economic Planning. This unit would include a Project Manager, senior officers to coordinate the Village Improvement Programme and staff for a small monitoring section. The Project Manager would be the secretary of the RDCC. The Project planning units of individual key ministries would be strengthened to ensure: (a) close ministerial cooperation in the follow-up maintenance and staffing of the projects; and (b) an adequate pipeline of labour-intensive projects for follow-up phases. The construction of all projects would be carried out by the Development Works Corporation, a corporate body established under the Development Works Corporation Act of 1970.

B. Ancillary Entities

6.07 The ancillary entities likely to be involved in the project at the local or field level might include:

- (a) Local government bodies (such as Local Councils);
- (b) Research and extension services;
- (c) Marketing bodies (including cooperatives);
- (d) Farmers' organizations.

6.08 In each case the precise role of the entity in the implementation of the project should be spelt out, together with a convincing explanation of the ability of the entity to undertake the responsibilities assigned to it. Staff requirements and availabilities should be given special attention and, where necessary, the qualifications and experience of key personnel should be given.

6.09 Where credit to farmers is involved, the credit institutions should be assessed in relation to capacity to undertake the proposed lending programme. Points to be considered are legal charter, capitalization, powers and functions, direction, management, delegation of authority, internal organization, staffing, accountancy and control, auditing, financial accounts and projections, operating policies, terms and conditions of loans, security requirements, procedures for loan appraisal, disbursement and collection and the loan repayment record.

6.10 In the chapter as a whole the objective should be not to explain the institutions as such but to explain how the project would be organized and managed and the contribution which the various entities would make towards that end.

VII. PROJECT BENEFITS AND JUSTIFICATION

7.01 As indicated in the Introduction, one single distinguishing feature of rural development projects is their orientation towards the low-income rural poor. This section of the report should therefore conclusively demonstrate that the proposed project actions would in fact lead to an alleviation of the condition of the target income group. Broadly, the typical project might be expected to:

- (a) Improve the general quality of life of this group and their productivity by giving them easier access to social services and amenities such as communications;
- (b) raise the average incomes of such groups directly through investments in means of production (an approach which implies that the individual in low-income group is the operator of an agricultural holding however small that might be).

7.02 Various techniques for weighting economic and social benefits which lead to the production of a quantified estimate of a project's social returns have been developed in recent years ^{1/}. While these techniques provide a useful means of comparing the relative advantages of alternative projects they rely heavily on the subjective allocation of accounting prices

^{1/} The Little-Mirrlees approach as in : Little, I.M.D. and Mirrlees, J.A.: Manual of Industrial Project Analysis in Developing Countries, Vol. II, OECD, Paris, 1969. The Sen-Dasgupta-Marglin approach as in: Guidelines for Project Evaluation, United Nations, New York, 1972.

to all project ingredients and products. They also tend to disguise many of the advantages and disadvantages of a project which, if brought out into the open, could be weighed individually in the decision-making process. Until these techniques are refined, the distinction between economic and social benefits should be clearly drawn in justifying rural development projects, and the presentation should concentrate on providing a properly informed basis for decision-making. This may involve calculating the economic return on the directly productive elements of the project, of which the costs and benefits can usually be quantified, and making a separate qualitative assessment of the non-quantifiable social elements.

A. Economic Benefits

7.03 A "conventional" assessment should be made of the economic benefits of the "directly productive" elements of the project. The most common method of doing this is by measuring the project's "internal economic return", which may be defined as "the rate of discount at which the total present value of costs incurred during the life of the project is equal to the total present value of benefits accruing during the life of the project." Typically in an investment project costs are bunched at the beginning of the project while benefits only begin to accrue after a lapse of time. The application of a discount factor enables these costs and benefits to be compared on a level footing on the basis of their present value.

7.04 To calculate the internal economic return it is necessary to construct a table, which should be given in an annex, showing the costs and benefits and the incremental income directly attributable to the productive elements as they accrue each year during the life of the project. Using Present Value Tables ^{1/}, the rate of return may then be arrived at relatively simply as illustrated in summary form in Appendix C.

7.05 In a project with several distinct production elements (e.g. agriculture, forestry, fisheries, agro-industries) the economic viability of each element should be demonstrated. As in conventional agricultural production projects, the incremental output resulting from project actions should be projected over the life of the project along with expected prices to derive the benefit stream referred to above. The cost stream (investment and operating costs) should only include those items directly associated with the production process i.e. the social costs dealt with in the following section should be excluded from the analysis at this point.

7.06 The analysis here should be strictly economic rather than financial, i.e. it should reflect the point of view of the economy as a whole rather than the standpoint of the individual farmer or other entities participating

^{1/} These are readily available in a number of sales publications.

in the project. Some items taken into account in the financial analysis which need a different treatment in the internal economic return calculation are:

- (a) Subsidies which operate to reduce input costs must be added back into the market prices for such inputs;
- (b) Price contingencies are omitted from project costs since it is assumed that inflationary trends will affect the prices of inputs and outputs equally;
- (c) Market prices, foreign exchange and labour costs should be "shadow priced" if the market rates are considered to be artificially distorted;
- (d) Taxes, duties, etc. are not deducted from the income stream as in the financial analysis since they represent transfer payments within the community;
- (e) Depreciation is not taken into account since the internal economic return calculation assumes a closed cycle.

B. Social Benefits

7.07 Social benefits should be presented in the context of the project's basic objectives. If the principal aim of a project is to develop a more equitable distribution of income in the target population, emphasis should be placed in the presentation on the extent to which it meets this goal. Similarly, if the objective is employment, a thorough assessment of the job-creating impact of the project should be made. Some of the following indicators may be used in the assessment of social benefits.

Income Distribution

7.08 The extent to which the income of the poorest sector of the population is improved as a result of the project relative to that of the other sectors should be shown. Ideally projections of income levels for each income quintile of the population in the project area, with and without the project, should be presented. Alternatively a comparison might be made of projected incomes for each farm size group.

Employment

7.09 The extent to which the project reduces underemployment and unemployment should be assessed. Generally this can be quantified in terms of the number of man-years of work created by the project, with a distinction being made between permanent employment and employment during the construction phase. The number of jobs created might be compared to the project increase

in the labour force. When a deliberate attempt has been made to substitute machinery by labour the cost (in financial terms) should be shown.

Access to Land

7.10 If the project contains a land reform element, the distribution of land utilization rights, by type of tenure, before and after the project should be demonstrated.

Internal Migration

7.11 In countries with serious metropolitan growth problems it may be useful to attempt an evaluation on the probable impact of the project on rural-urban migration. If satisfactory urban accounting or planning costs are available the savings in inescapable urban absorption costs resulting from reduced internal migration may be included among the economic benefits of the project.

Nutrition and Health

7.12 If the project is sited in an area with recognized nutritional or health problems, its expected impact on these problems should be assessed. If a quantitative assessment is possible the nutritional effects may be best described in relation to expected levels of daily protein and calorie intake relative to present levels.

Other Living Standard Indicators

7.13 Levels of access to utilities and services before and after project implementation relative to national rural and urban averages might be compared. Items reviewed could include domestic water, electricity, telephone, roads, schools, health services, markets, agricultural supplies, extension services, etc.

C. Sensitivity Analysis

7.14 "Sensitivity analysis" is usually undertaken to indicate the sensitivity of the economic calculations to changes in some of the more important basic assumptions made, such as average yields, "shadow" labour and foreign exchange rates, etc. It involves simply the substitution of alternative figures for the ones originally chosen and a recalculation of the results in terms of the internal economic return. In order to illustrate the implication of "loading" a rural development project with social infrastructure and services it may be useful to demonstrate the sensitivity of the rate of return calculated on the productive elements of the project to successive increments in the costs attributable to these social elements.

VIII. FINANCIAL IMPLICATIONS FOR GOVERNMENT

8.01 A clear understanding is needed of the budgetary implications of the project at all levels of government. Although an analysis should be made of the financial implications for involved agencies of the proposed project in its investment phase, particular attention needs to be given to identifying additional recurrent costs consequent upon project implementation. Such costs include maintenance of works (roads, irrigation schemes, water supplies, etc.) and the continued provision of services (extension, health, education, etc.). A detailed analysis should be presented in an annex to show the projected annual balance between costs to government and revenues likely to be generated from sources such as dues and taxation. This analysis would indicate the requirements for, and level of, subsidies and could be used to demonstrate a need to restrict the scope and scale of a project because of difficulties of raising revenues locally. Where a country is known to have foreign exchange limitations, the annex should also present a projected foreign exchange balance (value of exports less imports) for the project.

IX. OUTSTANDING ISSUES

A. Policy Issues

9.01 There are few projects which have no outstanding policy issues which must be resolved by governments before the project can be appraised for financing. Commonly these start at the identification stage in relation to the selection of the particular project area or type, or even the decision to make a real effort at achieving rural development. Thereafter decisions are particularly needed on the level of support to be given to a particular group of people or region or the level of water charges to small farmers, or the agency which will have the leadership of the proposed activities. While most policy issues should have been resolved by the time the preparation report is completed, in some cases presentation of the report and a clear statement of the outstanding issues is the only way of reaching high level decisions.

B. Measures To Be Taken Before Appraisal

9.02 Frequently the proposed project activities are based on judgement using an inadequate data base. The preparation group may need to complete surveys, air photography, or to present additional data after the report is presented, but prior to appraisal. This may be acceptable, but judgement has to be exercised as to the reliability of existing data - in other words, it should clear that the work to be completed after the report is written will serve only to substantiate the main project proposals and will not change them significantly.

ANNEXES

In order to keep the main project preparation report as short and concise as possible, all detailed supporting material should be assigned to annexes. In practice, the most common procedure is for the annexes to be prepared first and to constitute the basis for the main text.

The number, themes and completeness of annexes presented will, of course, depend very much on the scope of the project under preparation. They may also reflect the composition of the preparation team. Generally, however, annexes may be grouped into two broad classifications: annexes which are descriptive of the existing situation, institutions and development potential taken on the national and project level, and annexes which provide material to support the proposed elements of the project and its justification. The first class of annexes provides supporting information for the "Background" "Rural Development Strategy and Project Concept" and "Project Area" chapters of the main report, while the second class of annexes provides detailed material to support the later chapters of the report.

Like the main report, annexes should be kept short and only enter into detail to the level that is considered necessary for an understanding of the project and its justification. The depth of treatment accorded to any aspect of the project dealt with in annexes depends essentially on the judgement of the project preparation team. Annexes designed to support major or more critical project elements necessarily must be more detailed than those which present material to support less important elements. The level of detail presented may also reflect the degree of information available, but care should be taken not to overload annexes with irrelevant information just because the data happen to be available. Where much information of marginal relevance, but of possible interest to an appraisal team, has been gathered during project preparation, this may usefully be assembled as a collection of working documents to which reference may be made in the report.

PROJECT COMPONENTS

INDICATIVE BREAKDOWN

1. Farm Development (in the description: how many farms and which areas are involved)
 11. Short-term credit
 12. On-farm investment (medium and long-term credit)
 - Land improvement (land clearing, levelling, etc.)
 - Plantations (trees and semi-permanent crops)
 - Pasture investments (pasture establishment, fencing, etc.)
 - On-farm stocking
 - Farm implements and farm buildings
 - Farm irrigation facilities
 - Other
 13. Food Aid - Subsidies
2. Collective Productive Infrastructure
 21. Land consolidation
 - Agrarian reform
 - Cadastre
 - Settlement establishment
 - Land consolidation
 - Other
 22. Irrigation rehabilitation
 23. New Irrigation
 - Extension of an irrigation network
 - Collective pumps
 - Wells (including pumps)
 - Pilot Schemes
 - Engineering designs
 - Other
 24. Drainage
 25. Flood Control
 26. Other
3. Supporting Production Infrastructure and Services
 31. Roads and communications
 32. Marketing
 - storage
 - transportation
 - working fund
 - market places
 - other

33. Agricultural Research
34. Livestock breeding units
35. Seed production (including seedling production; seed-processing plant)
36. Agro-industries
 - dairy
 - group processing equipment
 - other
37. Machinery (in rural development projects, machinery is not, usually, an on-farm investment); including workshops
38. Plant disease and pest control
39. Animal health (including health campaigns)
4. Forestry
 41. Reafforestation (most often include erosion control)
 42. Erosion control, watershed management
 43. Forest exploitation
 44. Forest industries
5. Fisheries
6. Supporting project services
 61. Project administration and development services
 - central services
 - extension services
 - other services and agricultural institutions
 - technical assistance
 62. Farmers organization
 63. Training
 64. Studies
7. Social Investments and Services
 71. Health
 - equipment (including the corresponding services)
 - disease control
 72. Schools
 73. Water supply
 74. Electricity supply
 75. Village equipment (sanitation, collective buildings, recreational, etc.)

Sample Format of Cash Flow Table for Individual Project Farm 1/

	<u>Pre-</u>													
	<u>project</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Year 7</u>	<u>Year 8</u>	<u>Year 9</u>	<u>Year 10</u>			

1. Cash Inflow
 - (a) Total sales (gross revenue) 2/
 - (b) Farmer's contribution 3/
 - (c) Long-term loans 4/
 - (d) Seasonal loans 5/
 - (e) Total Cash Inflow

2. Cash Outflow
 - (a) Investment costs 6/
 - (b) Recurrent costs 7/
 - (c) Total Cash Outflow

3. Cash Balance before Debt Service

4. Loan Outstanding

5. Debt Service
 - (a) Interest on seasonal loan 8/
 - (b) Interest on long-term loan 9/
 - (c) Seasonal loan amortization 10/
 - (d) Long-term loan amortization 11/
 - (e) Total Debt Service Payments

6. Cash Balance after Debt Service 12/

7. Taxes

8. Net Cash Balance 13/

9. Cumulative Cash Balance 14/

(see footnotes overleaf)

Sample Format of Cash Flow Table for Individual Project FarmNotes

- 1/ This table is usually derived from a series of more detailed tables concerned with the Investment Costs, Recurrent Costs, Gross Revenue, etc.
- 2/ Value of total farm production valued at farm-gate prices less the value of subsistence consumption and crops used for another enterprise such as livestock production.
- 3/ It is assumed that where farmers have resources of their own they will contribute towards the development of their farms, complementing investment loans. Here, their actual cash contributions only are entered.
- 4/ The volume of these loans should be decided on the basis of investment requirements, farmer's own capacity to contribute and incremental cash benefits. The loan disbursement period should be kept as short as warranted by the cash flow.
- 5/ Normal seasonal credit may be utilized if the institutions exist in the project area.
- 6/ Capital expenditure here is the actual real capital put on the farm each year, regardless of any grace periods on loans, etc., and provision must be made for replacements where necessary. No provision is made for cost escalation at this point.
- 7/ Includes all cash costs (seeds, fertilizers, hired labour, operating costs of transport and machinery, etc.) valued at farm-gate prices as well as overhead costs such as management, depreciation, insurance, etc. Since family labour is not a cash cost it should be excluded from consideration at this stage. Financial charges, although of a current nature, are also excluded at this point.
- 8/ Interest on average loan.
- 9/ Interest on loan outstanding at end of year (from Item 4).
- 10/ Since this loan is for less than 12 months it should equal Item 1(d).
- 11/ Amortization of long-term loan as in Item 1(c). Amortization should be in equal annual instalments and there may be need for a grace period of up to 3-5 years after disbursement.
- 12/ Item 3 minus Item 5(e).
- 13/ Item 6 minus Item 7.
- 14/ Summation of Item 8.

Sample Calculation of Internal Economic Return

(The internal economic return is about 17.5%)

Year 1/	Investment costs	(Incremental) operating costs	(Incremental) gross returns	Balance (3)-(2)-(1)	Present value of 1 at 18% annual discount 2/	Discounted balance (4)x(5)	Present value of 1 at 17% annual discount 2/	Discounted balance (4)x(7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	100	10	-	-110	0.847	-93.2	0.855	-94.0
2	400	20	-	-420	0.718	-301.6	0.731	-307.0
3	300	20	100	-220	0.609	-134.0	0.624	-137.3
4	200	30	200	-30	0.516	-15.5	0.534	-16.0
5	-	30	200	+170	0.437	+74.3	0.456	+77.5
6	-	30	210	+180	0.370	+66.6	0.390	+70.2
7	-	30	220	+190	0.314	+59.7	0.333	+63.3
8	-	30	230	+200	0.266	+53.2	0.285	+57.0
9	-	30	240	+210	0.225	+47.2	0.243	+51.0
10-20	-	30	250	+220	1.050	+231.0	1.177	+258.9
Total						-12.3		+23.6

1/ Covers life of project.

2/ Present value figures taken from standard tables in a variety of publications. The annual discount percentage is arrived at on a trial and error basis by successive approximation until the algebraical sum of the discounted balance column is as close as possible to zero. It is useful to remember that after a period of 30-40 years all the discounted values become negligible.

COOPERATION BETWEEN FAO AND THE WORLD BANK

**REPORT OF THE JOINT TASK FORCE
TO THE
JOINT STEERING COMMITTEE**

JOINT FAO/WB/CP TASK FORCE

J. C. Peter Richardson (Chairman), OPD, Bank
Ardrew MacMillan, FAO/WB-CP
Michael Walker, AFM, FAO
James Brown, EA Projects, Bank
Henk Groen, OPD, Bank

DISCUSSION DRAFT

August 8, 1975

COOPERATION BETWEEN FAO AND THE WORLD BANK
REPORT OF THE JOINT TASK FORCE TO THE JOINT STEERING COMMITTEE

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
SUMMARY	2
THE PRESENT CONTEXT OF GROWING URGENCY	3
BASIC FACTS	4
Structure	4
Size	4
Activity	5
Costs	5
Interaction in Rome	5
Interaction in the Field	5
Direct Bank/FAO Interaction	6
UNDP Dimension	6
COMPARATIVE ADVANTAGES	6
APPROACHES TO PREPARATION WORK.....	8
BANK/CP OPERATING PROCEDURES	10
Project Definition	10
Preparation Issues Paper	10
Preparation Report Transmittal	11
CP/FAO RELATIONSHIPS	11
Time Exchanges	12
Other Measures	13
CP/BANK RELATIONSHIPS	13
Bank Priorities	13
Manpower vs. People	14
Project Generation Planning	15
Information Flow to CP	15
DIRECT FAO/BANK RELATIONSHIPS	16
THE UNDP DIMENSION	16
CP MANAGEMENT	17
CP Management Systems	17
Professional Development	19
IC Top Management and Structure	20
CP Services	21
Operations Officers	22
OVERAL IMPACT	22

TABLE OF CONTENTS: ANNEXES

1. Comparative Advantages: Role of the IC

Attachment 1: Multi-Sector Rural Development Projects

2. Bank/CP Operating Procedures and Approach

Table 1: CP Preparation Productivity

3. IC-FAO Relationships

4. IC Location, Structure and Management

Table 1: Proposed Organization of Investment Center

Attachment 1: Advantages and Disadvantages of Five Locational Alternatives for the Cooperative Programme

Attachment 2: Integration of the Investment Center -- Implications For Those Affected

Attachment 3: Position Responsibilities Under the Recommended Structure

Attachment 4: Agricultural Education, Training and Extension

5. Bank/CP Coordination, Planning, Budgeting and Control

Table 1: Pipeline Problems

Table 2: Intervals to Appraisal, Problem Projects

Table 3: Project Generation Plan

Table 4: Project Generation Timetable

Table 5: Budget and Programming Lead Times

Table 6: Integrated Bank and CP Systems

Table 7: Indicative CP Resource Deployment

Attachment 1: Proposed Agricultural Project Generation Planning and Programming Procedures

Attachment 2: An Informed Basis for Budgeting Preappraisal Work and CP Resources

Table 1: Illustrative Top-Down CP Size Projection

Attachment 3: Management Information and Control: Outline Description of Time Reporting System

Table 1: Time Reporting Activity Codes

TABLE OF CONTENTS: ANNEXES (Cont'd.)

6. Direct FAO and WB Relationships

Attachment 1: Draft FAO Circular: Assistance By FAO Field Staff to the World Bank and the FAO/Investment Center

7. UNDP and WFP Aspects

Table 1: Proposed IC Role in FAO/UNDP Projects

8. Budgetary and Staffing Implications

Table 1: Some Budgetary, Productivity and Staffing Implications of Major Recommendations

Basic Reference Data and Reference Tables

COOPERATION BETWEEN FAO AND THE WORLD BANK

Report of the Joint Task Force to the Joint Steering Committee

INTRODUCTION

1. Approximately ten years after creation of the FAO/WB Cooperative Program (CP), FAO and the World Bank agreed to conduct a joint study of their relationships, with particular attention to the CP. The study was not the result of any crisis in relationships; nor, in fact, has any such crisis been discovered. Rather, both the Bank and FAO had undergone re-organization and both had decided to attach increased emphasis and urgency to their shared priority objective of accelerating agricultural development in the developing countries. This study has been an effort to evaluate the patterns of FAO/Bank cooperation in order to determine what measures, if any, might enhance FAO's and the Bank's combined capacity to pursue the objectives they share.

2. A Joint Task Force conducted the study in the first half of 1975. This report is a summary of the task force's findings and recommendations.* They are based on interviews with more than 300 people in Rome and Washington,** extensive quantitative analyses of activities, costs and -- to the extent possible -- performance indicators, reviews of approximately 20 project files, a questionnaire to CP staff and two days of comment on the task force's detailed progress report by a twelve-man "Joint Steering Committee."*** Since the Steering Committee's progress review, informal meetings with individual committee members have provided further invaluable guidance.

* Detailed supporting annexes have been prepared for directly affected managers.

** Including interviews of all available Bank agriculture mission leaders, division chiefs, and assistant directors, all available professional staff and key administrative staff in the CP, and 75 FAO executives not in the CP.

*** The members of the Steering Committee are:

Mr. J. Kearns (Chairman), Director WB Organization Planning Department;
Mr. J. Huyser (Vice-Chairman), Director, FAO Investment Center;
Mr. M. Yudelman, Director, WB Agriculture and Rural Development Department;
Mr. M. Hoffman, Director, WB International Relations Department;
Mr. D. Haynes, WB Regional Assistant Projects Director, EMENA;
Mr. R. Picciotto, WB Regional Assistant Projects Director, S. Asia;
Mr. H. Casati, Chief, CP Service I;
Mr. A. Jones, Chief, CP Service II;
Mr. J. Cohen de Govia, Director, FAO Management Services Division;
Mr. H. Quaix, Chief, FAO Development Research and Training Service;
Mr. J. Abbott, Chief, FAO Marketing and Credit Service;
Mr. M. Veraart, WB/CP Coordinator

3. The key questions we (as task force members) sought to answer were:

- (a) How can CP's efficiency and usefulness to the Bank and FAO be improved? How, consistent with its long-term institutional needs, can CP be made more responsive to the needs of the individual Bank managers who compete for its services? How can it be made more useful to FAO?
- (b) Given the inherent strengths and weaknesses of FAO, the Bank and CP, what is the best role for CP to play vis-a-vis the parent organizations and developing countries?
- (c) What are the principal features of successful preappraisal work in agriculture? What implications do they have for preappraisal procedures, practices and the role and performance of CP?
- (d) To the extent that the Bank and FAO have common concerns beyond CP, are the two organizations coordinating adequately?

4. We have particularly sought to focus on the first question, for many non-CP FAO managers tend to feel FAO does not get its money's worth from the CP, while many pressured Bank managers -- frustrated by their individual inability directly to control CP resources -- hesitate to rely on CP and can see advantages to having CP staff located in their own divisions in Washington.

SUMMARY

5. In our view -- based on broad areas of agreement among those interviewed -- the CP has brought to preparation assistance an investment expertise that the rest of FAO normally lacks, a detailed awareness of Bank requirements that most consultants lack, a depth of technical expertise often not found in individual Bank divisions and some significant advantages that derive from its separateness from the Bank. In helping countries prepare agricultural projects suitable for Bank financing, the CP has rendered a vital service -- usually of excellent technical and good overall quality -- at less cost to either the Bank or FAO than would have been possible through other means.

6. Radical changes are not required, but both the Bank and CP have significant room for improvement. The CP needs to manage itself more systematically, deliberately and visibly in order to enhance the willingness of Bank managers to delegate to it much of the task of filling their rapidly expanding pipelines. In addition to a firmer management style and some relatively minor structural adjustments, the CP needs to institute accurate time reporting, project timetables, and -- for maximum sustained effectiveness -- concerted measures to keep its staff au courant with Bank and FAO thinking.

7. On its side, the Bank needs to be more systematic and deliberate in planning and monitoring preappraisal work. To improve preparation quality as well as the efficiency of Bank/CP coordination, the Bank needs to focus earlier in its work cycle on the likely problems of identification and preparation. It also needs to streamline the present procedures for Bank/CP operational collaboration and to increase the routine flow to CP of relevant documents and information.

8. Lastly, both CP and the Bank need to adopt attitudes and methods of control that are consistent with a strengthened CP capability to link the extensive skill resources of FAO -- which has approximately 3,000 agricultural specialists (compared to a Bank total of less than 300) -- with the broad investment know-how and financial resources of the Bank.

9. With minimum cost to Bank-related work and some benefits in a broadened CP ability to tap the FAO resource, the CP is now uniquely positioned to provide valuable -- perhaps indispensable -- assistance to the rest of FAO as it seeks to achieve the greater degree of investment impact it appears to desire. Any significant enhancement of FAO's potentially great impact in this respect would yield important long-term benefits to the developing countries in their vital efforts to prepare agricultural projects suitable for international financing.

* * * * *

10. In the following, after briefly outlining the present context of increased urgency in agriculture, we provide some basic data -- much of which has been developed during the study as an essential background for understanding the problem. Then, we discuss in turn:

- Approaches to preparation work
- Bank/CP operating procedures
- CP/FAO relationships
- CP/Bank relationships
- Direct FAO/Bank relationships
- The UNDP dimension
- CP management
- Overall impact

11. We do not have a definitive recommendation on whether to change the Basic FAO/WB CP Agreement. The agreement has served its purposes adequately and we see no net benefit in -- or management necessity for -- changing it now. It is conceivable, however, that the agencies' legal staffs might find it necessary to amend the agreement because of our recommendations concerning the "contract."

THE PRESENT CONTEXT OF GROWING URGENCY

12. Over the past decade, the Bank has greatly intensified its activities to promote agricultural and rural development. This emphasis is continuing, as is the broadening in scope of Bank agricultural lending. From 1975 through 1979, the Bank intends to lend roughly \$7,000 million for over 400 agricultural and rural development projects which will result in a total investment of roughly \$15,000 million.

13. Judging by interviews with most of its senior executives, FAO -- while continuing its concern for building an "intellectual infrastructure" in agriculture through research, technical assistance and informational activities -- has greatly increased its desire to bring about results with direct development impact including, as a high priority, productive investment.

14. The increased world-wide urgency of agricultural assistance and the desire to enhance donor capacities to act in concert in providing it have been underlined recently by the creation in 1971 of the Consultative Group for International Agricultural Research (CGIAR) and, in the past year, by the World Food Conference and subsequent creation of the Consultative Group for Food Production and Investment (CGFPI), the World Food Council and the International Fund for Agricultural Development.* There seems now to be almost universal recognition that the welfare of most of the world's people in the coming decade will be vitally affected by the success of efforts presently being intensified to accelerate the growth of agricultural and rural productivity.

15. Close Bank/FAO collaboration in working towards these objectives is indispensable and CP's role in that collaboration is central. The Bank needs an efficient, productive CP to help fill its expanding projects pipeline; FAO needs convenient access to CP's concentrated investment expertise. Our study has been a review of current Bank/FAO collaboration and of the possible need and means for improving it.

BASIC FACTS

16. Before presenting our conclusions and recommendations, we outline some basic facts necessary to an understanding of the FAO/WB relationship and the FAO/WB Cooperative Programme.

Structure

17. The FAO/WB Cooperative Programme (CP) is the major part of FAO's Investment Center (IC) and shares with it a common director who reports to FAO's Assistant Director General for Development. (The IC's 10 non-CP positions are in what is called its "Central Office" which is headed by a "Coordinator" and does preparation assistance work similar to CP's for IDB, AsDB, AfDB, some bilateral agencies and a "Bankers' Programme.") The CP has, in addition to a 50% share of the Director, a Deputy Director, two Services -- each with a Chief and an unfilled Deputy Chief position -- and a Program Coordination and Administration Office.** The latter provides service to the whole IC. Also, a Senior Agricultural Adviser, Senior Adviser (50% financed by CP) and an Editor report to the Director.

Size

18. At the end of 1974, the CP comprised 75 of the FAO Investment Center's 85 authorized professional positions. From July 1, 1971, through December 1974, CP's on-board staff grew by 19% (to 69), while Bank agricultural staff grew by

* Because of their newness and continuing rapid evolution, our study has not encompassed these three new entities.

** One Service serves Latin America (LAC) and Europe, the Middle East and North Africa (EMENA); the other East Africa (EAF), West Africa (WAF), S. Asia and E. Asia and the Pacific (EA&P).

roughly 70% (to 205). In the past 5 years, 46% of CP's recruitments have been from the ranks of FAO. In the next few years, the non-CP part of the Investment Center will be -- in proportionate terms -- its fastest growing element, as the regional institutions, OPEC lenders and members of the Bankers' Programme already plan to increase sharply their use of the IC. The CP, however, is also likely to grow, as the World Bank continues to expand its activities in agriculture.

Activity

19. In FY'74, 84% of CP's mission days (an indicator of expended effort) were devoted to preappraisal work, compared to 18% of the Bank's agriculture time. From FYs 72-74, EMENA, S. Asia and LAC each used more than 20% of CP's time, E. Asia 16%, EAF 10% and WAF 5%. South Asia's usage is growing most rapidly. Of the 164 agriculture projects approved by the Bank's Board from July 1972 through February 1975, CP had assisted in the preparation of 65 or 37% -- 61% of EMENA's, 52% of S. Asia's and 46% of LAC's. Their proportionate involvement was greatest in fisheries (86%), irrigation (51%) and livestock (50%). These percentages understate CP's impact on new projects, as the base includes repeater projects and those prepared through "piggy-backing."

Costs

20. Because of overhead costs assumed by FAO, the Bank's share of CP costs is less than the Bank/FAO 75%/25% cost-sharing agreement would suggest. At FY'74 price levels, a man-year of CP staff time cost the Bank \$39,100 -- 36% less than a man-year of Bank projects staff time (\$61,000) and 20% less than a consultant man-year (\$49,000). If CP's 1974 mission travel had been done from Washington by Bank staff rather than from Rome by FAO staff, the additional cost would have been \$403,000 or roughly \$5,000/CP man-year.

Interaction in Rome

21. The CP reimburses -- with its consultant funds -- roughly 7 man-years per year of professional staff time received from the rest of FAO. In addition, most CP staff members draw routinely on FAO's skill and data resources. They estimate that they spend 8% of their time in Rome interacting with FAO and have an average of 1.5 "substantive contacts" per week, 95% of which they judge to be "very useful" or "useful." 59% of CP staff view the interaction as "important"; 17% view it as "vital." The largest category of contacts is for technical advice (28%); most (54%) are with FAO's technical departments (Agriculture, Forestry, Fisheries), and only 21% of the interaction time is considered "primarily for FAO benefit." (51% is intended to be primarily for CP benefit and 28% for mutual benefit.)

Interaction in the Field

22. Contacts with FAO staff in the field (who number approximately 2,000) also are extensive. During 27 CP missions concluded immediately before May 1975, there were 48 "substantive contacts" in the field, of which 30 were described as "extensive." Bank agriculture staff also often informally seek the advice or assistance of selected FAO field staff.

Direct Bank/FAO Interaction

23. Interaction between the Bank and FAO but not involving CP occurs on numerous levels and in widely varied contexts. The two organizations are co-sponsors of: the Consultative Group on International Agricultural Research (CGIAR), the Consultative Group on Food Production and Investment (CGFPI), the UN Protein Advisory Group (PAG), and the Onchocerciasis Control Program. They have also had discussions about a proposed joint Program of International Cooperation in Agricultural Sector Analysis (PICASA). The two organizations have a close and continuing collaboration with respect to commodities work and are associated in an ongoing joint study of prospects for producing more meat in East Africa for the Near East market and a Bank-financed FAO study of small farm statistics. There is a continuing agreement in principle for the Bank and FAO to avoid carrying out agricultural sector studies in the same country in the same year. In addition, FAO/Bank interactions may from time to time and on an ad hoc personal-contact basis, involve research activities, EDI and FAO training work, IFC through the FAO's Bankers' Programme, CPS or DPS attendance at technical meetings and study groups, and the use of FAO staff to brief or participate in Bank missions.

UNDP Dimension

24. A last major category of relevant relationship concerns FAO's UNDP-funded projects. One hundred of more than five hundred such projects approved from 1972-1974 were classed by UNDP Resident Representatives as having "investment potential," and 63 were classed as having "preliminary investment potential" (although many in each category would have been too small for World Bank investment); 21 were classed as "investment support." For the roughly 30 FAO-executed investment-oriented UNDP projects in which the Bank declared a "special interest" (most of which are investment potential but some of which are investment support), the CP is designated as the Bank's "watching agent" -- to review reports, participate in progress reviews, and keep the Bank informed. The non-CP part of the Investment Center has one UNDP-funded position charged with infusing into the remainder of investment potential projects an awareness of -- and appropriate degree of responsiveness to -- investment requirements.

COMPARATIVE ADVANTAGES

25. There is a wide Bank consensus that CP staff members are comparable to Bank projects staff in professional competence. Their work is regarded as particularly strong technically -- CP, being larger, can be more specialized than any agricultural unit of the Bank -- but less strong with regard to financial, institutional and managerial aspects (which tend to become ripe for solution in the later stages of project processing).

26. Bank staff (who significantly underestimate the extent to which CP consults FAO) do not, however, feel that CP succeeds as a vehicle for bringing to project preparation work the full range of highly specialized skills possessed by FAO. Most FAO managers, on the other hand, recognize CP staff (to whom they refer as "the Bank") as an elite, as a unique source of investment know-how and practicality, but regret that Bank and CP barriers have made it almost impossible to bring CP's unique strengths to bear on activities of the rest of FAO.

27. Both FAO and CP staff view the Bank as powerful, fully action-oriented, broadly effective, high-pressured, impatient and often arrogant. While respecting the Bank's capacity to "get things done" -- i.e. loans made -- they criticize Bank staff members for having somewhat of a steam-roller mentality and for appearing to be more interested in commitment than disbursement; FAO managers criticize the Bank for tending to equate investment with development, to underestimate the significance of activities (such as resource evaluation, information exchange and technical assistance) which may have little direct impact on investment but great long-term importance for development.

28. Bank and CP staff, while respecting the depth and frequent excellence of expertise possessed by staff members of FAO-proper, find the organization as a whole uneven, rather bureaucratic, insufficiently results-oriented, somewhat indecisive and extremely sensitive politically.

29. There is little question or disagreement that the CP's forte is project preparation assistance. Bank staff agree that CP's superior knowledge of Bank requirements gives it a major advantage over consultants in most cases; its investment-orientation gives it an advantage over most FAO staff. Compared to the Bank, CP has an advantage in preparation assistance work because of its:

- Separateness from the Bank, which makes it more possible for the Bank on appraisal to question or countermand the preparation work without appearing embarrassingly redundant or self-contradictory,
- Freedom from the competing pressures of appraisal and supervision work and capacity, up to a point, to withstand Bank pressures to accelerate the process where this might be counterproductive,
- Depth of technical expertise, compared to any one Bank Region, and comparatively ready access to the technical resources and expertise of FAO,
- Capacity to assist countries in reaching decisions about how to deal with the Bank, and
- Lower cost (to the Bank) per man-year -- by more than 35%.

30. In our view, these advantages outweigh the disadvantages to the Bank of CP's structural and geographic inaccessibility and consequent reduced deployment flexibility compared to Bank headquarters staff, its occasional weakness in the institutional aspects and imperfect "feel" for Bank policy and country sector strategy, and the greater difficulty for the Bank -- when CP is used -- in directly influencing projects at the stage when their options are most fluid. Also, to the extent it is thought desirable to merge preparation assistance and appraisal work without changing the staff involved, CP is placed at a disadvantage.

31. With respect to identification work (which is discussed more fully in the next section), we believe CP has no particular advantage or disadvantage in the recognition of project ideas, is at a disadvantage compared to the Bank

in selecting projects for further work with a view to ultimate Bank financing and -- because of its extensive preparation assistance experience -- has a comparative advantage in what we have called "project definition."

32. Project appraisal and supervision are essentially non-delegable functions which CP cannot perform for the Bank. As individual members of Bank-led missions, however, CP staff can contribute fully to this work. They can similarly contribute to Bank-led country economic/sector missions and where the objectives are primarily analysis (rather than, for example, Bank/country dialogue) have successfully been made fully responsible for sub-sector surveys. Also, through informal consultation senior CP members can bring useful perspectives to bear on the Bank's review and development of country sector assistance strategies.

33. Within FAO, the Investment Center is ideally situated to serve as a nucleus for the infusion, where desired, of greater investment orientation into UNDP-funded "investment potential" projects, selected World Food Programme projects and trust fund and "regular programme" activities. Also, its Director is well situated to (and does) chair FAO's Interdepartmental Working Group on the CGFPI.

34. Although CP is well situated to see both the FAO and Bank side of policy questions, there are many areas -- e.g. research, commodities, food balance analyses -- where it has no comparative advantage and need not be a conduit for Bank/FAO coordination.

35. Based on these comparative advantages, the Cooperative Programme has had, and should continue to have, three objectives -- to help:

- (a) Countries create projects suitable for World Bank financing.
- (b) The Bank and FAO interact and coordinate in ways that enable each to benefit from the other's strengths in pursuing the shared priority objective of accelerating agricultural development in developing countries.
- (c) FAO realize the full investment potential of its activities.

36. Its principal activity should continue to be project preparation assistance.

APPROACHES TO PREPARATION WORK

37. Before a project can be prepared, it must be identified. Identification, in the Bank's context, entails three frequently merged but conceptually discrete activities:

- (a) "Recognition" -- of a project idea as potentially sound and consistent with country priorities.

- (b) "Selection" -- of a project for further work because it seems to be the best available combination of intrinsic merit, country support and consistency with Bank assistance strategies; and
- (c) "Project Definition" -- development of a selected project idea to the point at which it is prudent and efficient to commit the level of resources needed for detailed preparation.

38. Although project preparation assistance is usually available, project preparation is fundamentally a country responsibility. While the purpose of project preparation in the Bank's context is to develop a project concept to the point at which it is suitable for Bank appraisal and -- with minimum change -- Bank financing, the purpose of preparation assistance is broader. No matter how excellent the project, preparation assistance cannot be fully successful unless it also results in a good level of country understanding of and commitment to the project and a somewhat improved country capacity to prepare its own projects in the future.

39. Assistance in preparing projects for Bank financing should be regarded as a service primarily to countries and only secondarily to the Bank. Preparation assistance that is well done results in projects that are easier (and more efficient) for the Bank to appraise and -- given the resulting country understanding and commitment -- easier for countries to implement. A more creative though less final activity than project appraisal, preparation assistance has high leverage over both the quality and efficiency of subsequent project work.

40. The task force found it convenient to distinguish three approaches to preparation assistance:

- (a) "Paratrooping". The conventional and most frequently used "paratroop" approach typically consists of a three to four-week field visit, some interviews with key officials before leaving the country and then a report-writing phase at headquarters.
- (b) "Bus-stopping". The widely preferred but far less frequent "bus-stopping" approach to project preparation assistance entails an initial mission to map out work to be done by a local project preparation team, followed by several visits to assist and review progress and perhaps a final mission to help with "packaging."
- (c) "Squatting". The use of an expatriate who resides in the country to help with preparation or pre-preparation work -- a "squatter" approach -- typically is employed in UNDP and bilateral technical assistance.

41. Each approach can sometimes be appropriate, depending on the country conditions and the project involved. As a general matter, however, "squatting" tends to be slow, expensive and hard to manage on a large scale although it may have maximum training impact and good potential for building needed government commitment and ensuring a pipeline of projects. "Paratrooping" -- while

unavoidable where tight appraisal deadlines are imposed or where countries have particularly severe skill shortages -- usually has a cost in country understanding and commitment and produces little improvement in country preparation capabilities. "Bus-stopping" is clearly superior to paratrooping from the point of view of country understanding and commitment as well as training and is much more efficient than paratrooping in the consumption of CP applied time.

42. Bus-stopping, however, usually requires significantly more lapsed time than paratrooping. It therefore requires better advance planning. Moreover, because the key bus-stopping task is helping in the field rather than report writing at headquarters, bus-stopping greatly diminishes the possibilities for management to exercise quality control through report review. It places a premium on mission leader abilities, careful collaborative review at the project definition stage and before-the-fact quality enhancement through professional development.

BANK/CP OPERATING PROCEDURES

43. Beyond taking measures (which we discuss subsequently) to facilitate bus-stopping, Bank/CP procedural improvements are possible in CP's project definition work and in the processing of CP preparation reports.

Project Definition

44. CP involvement in reconnaissance (i.e. project "recognition") is often desirable, although not always feasible. CP involvement in project definition work, however, should normally be mandatory for projects concerning which CP is going to be asked to render preparation assistance. (In special cases where project definition has been completed without CP involvement, CP should not undertake the preparation assistance unless it is in a position to accept fully the definition work that has been done.)

45. Rather than the present sometimes multi-volumed "Identification Report," CP should prepare for submission to the Bank a "Project Definition Report" of less than 20 pages (plus a list of available working papers). Its purpose would be to provide a vehicle for Bank, CP and country agreement on the major alternatives to be developed during preparation assistance and on the overall financial magnitudes contemplated. Its comparative brevity would improve the quality as well as the efficiency of review. When that review raises fundamental issues between the Bank and CP, they should be resolved before preparation assistance begins and, if necessary, through face-to-face consultation (in the country, Rome or Washington) between responsible Bank staff and the CP mission leader.

Preparation Issues Paper

46. Within 10 days of a CP mission's return from the field to prepare a preparation report, it should write a preparation issues paper in lieu of the present back-to-office report. The paper in less than 10 pages should summarize the proposed project and identify (with recommendations) issues, major alternatives and other aspects concerning which Bank guidance could be useful prior to

completion of the report. The paper could be Telexed and Bank comments would be required within 10 days.* CP would consider them carefully -- in the knowledge that they were likely to be reflected at appraisal -- and might consult further with the Bank (or the country) in cases of disagreement, but would have the final decision whether to reflect the comments in their preparation report to the country.

47. After intermediate bus-stopping missions, Bank reactions to the back-to-office progress reports would be an additional vehicle for early dialogue.

Preparation Report Transmittal

48. The CP preparation reports should be transmitted directly to countries (under a disclaimer about Bank endorsement) with copies to the Bank under a covering letter highlighting points which might benefit from particular attention at appraisal. The present procedure whereby the Bank clears such reports is:

- Inconsistent with the concept of preparation assistance as a service primarily to countries and only secondarily to the Bank,
- Premature and perhaps even compromising, given the imminence of appraisal,
- Unrealistic as a "screening" precaution, to the extent of country involvement in the preparation work, and
- Inefficient, as the clearance does not now -- and is unlikely ever to -- receive the level of Bank attention necessary to make it effective.

CP/FAO RELATIONSHIPS

49. When the CP was created, the overall commonality of FAO and World Bank objectives was far less than it is today. FAO was less concerned with creating the conditions for investment; the Bank was less urgently concerned with agriculture. A conscious CP policy of separateness from FAO was, in fact, stressed as a prerequisite of effectiveness in establishing standards, work patterns and procedures appropriate to CP's investment-oriented objectives. While the Bank/FAO "bridge" was under construction, the Rome end was deliberately closed to traffic.

50. Now, however, that CP has proven its strength in project preparation work, it is in the interest of the Bank's and FAO's member countries to enhance CP's capacity to (a) bring to bear on Bank-related work the full range of FAO's agricultural skills and (b) provide support to the rest of FAO as it seeks to achieve the greater degree of investment know-how and impact it appears to desire. Assuming appropriate systems of management control (discussed subsequently), these objectives can -- in fact, must -- be served with no sacrifice of CP output or quality.

* The Bank is in the process of leasing a Telex line to Europe, which will sharply reduce the Telex cost.

Time Exchanges

51. At present, there is a significant although modest "formal" flow of FAO staff assistance to the CP, which is financed from CP consultant funds; the reverse formal flow of staff time from CP to FAO is negligible. The informal (i.e. uncompensated) flow of staff assistance also tends to be unidirectional. As a result, CP's value to -- and impact on -- FAO is much less than it could be.
52. Because CP reimbursement funds are of less value to many FAO managers than the time of good staff (and were even confiscated last year in an FAO budget squeeze) and because of the pre-emptive pressures of Bank priorities, the present practices -- which make the Rome cooperation appear to be a "one-way street" -- tend to sour the CP/FAO relationship. If continued, they would be likely to result in less FAO support to CP in the future.
53. It is important to increase CP's and FAO's utility to each other without decreasing CP's utility to the Bank. A system of selective exchanges of CP and FAO staff time (up to perhaps 15% of CP's direct-hire time) should be available for those FAO managers who would prefer it to be the "sale" of their staff's time for CP consultant dollars.* CP managers should be encouraged to trade or sell amounts ("slivers") of CP staff time ranging from a week to several months for (not necessarily equal) slivers of FAO (including non-CP Investment Center) time -- subject, as necessary, to periodic balancing transactions with consultant funds. The trade or sale of CP staff time sought by FAO managers would (within the limits agreed by the Bank and CP) be at the sole discretion of CP managers, provided that the quality of CP work for the Bank was maintained and the work done by CP staff for FAO was broadly related to investment.
54. Such exchanges will increase CP's usefulness to and impact on FAO (thereby increasing the latter's investment impact) as well as CP's ability to tap FAO staff resources for Bank-related work. For sale and exchange purposes, CP's staff should be increased at the expense of its consultant budget -- perhaps by 5 people in the first year. To the extent that "sales" occur, the consultant budget would be directly replenished; to the extent that trades occur, the staff time would be. No net loss of resources usable by CP would result. In fact, such exchanges will -- with some advance planning -- increase CP's usable resources and enhance its efficiency by facilitating the conversion of CP "down-time" into usable time. This conversion capability will become increasingly valuable as bus-stopping -- which requires more travel and less headquarters report writing than paratrooping -- becomes more prevalent.

* FAO managers have said CP time would be highly desirable in such activities as work programming, design of a prototype dairy investment, advice regarding a country development plan for agriculture or an agriculture subsector, training in project analysis, assistance with the planning or marketing work of a "Scheme" (e.g. dairy development or meat), etc.

55. While the exchanges we have described do not raise unit costs (and, in fact, decrease them to the extent they permit conversion of down-time), modest allowance should be made in CP's budget for the costs of discretionary uncompensated FAO-related activities such as reviews of country perspective studies, participation in interdivisional working groups, contributions to FAO seminars and technical conferences, etc. These activities should not be regarded as being exclusively "for FAO's benefit"; nor should preparation assistance be seen as work done exclusively "for Bank benefit." Given FAO's and the Bank's shared objective of accelerating developing countries' agricultural development through investment where appropriate, all of CP's activities -- including those that improve CP's capacity to function as a wide two-directional bridge between FAO and the Bank -- benefit the work of both organizations.

Other Measures

56. Other measures to enhance the vitality of the "Rome connection" should include:

- (a) Conversion of the IC "Documents Unit" into an active, extroverted information disseminator within FAO and the Investment Center;
- (b) Designation by FAO of a contact man in each technical division and use by CP of Senior Specialists (discussed subsequently) for liaison purposes -- with selective cross-attendance at staff meetings, technical meetings and debriefings;
- (c) Establishment of additional "Joint Groups" on the model of the IC/Fisheries group -- generally, to help bring a realistic investment orientation to divisional programs and a full awareness of technical developments to IC staff and, specifically, to identify potential investment opportunities earlier.

CP/BANK RELATIONSHIPS

57. Operational coordination across organizational lines or geographic distance is never easy and seldom perfect. Given the CP's need to serve more than 20 Bank division chiefs reporting to 7 vice presidents, the methodological fluidity of agricultural work and the inherent skepticism that those who appraise projects are expected to bring to preparation work, it is not surprising that some coordination problems still exist between CP and the Bank. Even though the Bank's reorganization complicated the coordination task, frictions in the Bank/CP relationship have been on the decline. Present Bank/CP coordination problems, in fact, resemble some of the problems that have been found between the Bank's headquarters and its regional missions in Africa and between the Bank's centralized operating staff in CPS and the divisions whose competing needs they serve.

Bank Priorities

58. As a general matter and subject to CP's agreed role, CP management must be broadly responsive to the priorities expressed by Bank managers. These, however, often conflict (e.g. where mission rescheduling is sought),

may not be compatible with CP's long-term maximum effectiveness (e.g. requests by some Bank managers for extensive participation in appraisal work), and may not be discerned sufficiently in advance to permit efficient CP planning. The foregoing factors reduce CP's responsiveness to individual Bank managers and -- when combined with CP's lack of Bank-style project timetables and inability accurately to indicate how much manpower will be or has been delivered to a given Region in a given year -- make Bank managers reluctant to rely on CP to fill their pipeline.

59. Understandably, highly pressured division-level Bank managers would prefer to "own" their share of the CP resource -- or at least have it under their full and immediate control -- in order to eliminate the uncertainties resulting from competition with other Bank managers and remove the "screen" of CP management. This desire to "integrate backwards" accounts for their tendencies to see CP simply as a supplementary source of Bank staff, as a source of inputs rather than as a subcontractor or partner accountable for results (i.e. projects ready for appraisal). Yet it overlooks CP's comparative advantages in preparation work (see Paragraph 29) as well as the:

- Inherent inefficiency of attempting "short-string" management at a distance of 4,000 miles,
- Contribution of CP management,
- Broader benefits to member countries of an effective Rome connection, and
- Likelihood that to the extent CP becomes a mere "stable" of extra Bank manpower -- rather than an institution in its own right -- its leaders will find it increasingly difficult to perform their leadership role in attracting, holding, motivating and professionally developing the top quality staff that make CP valuable.

60. If unchecked, the Bank line managers' tendency to substitute "tight" Bank management of CP inputs for reliance upon CP managers to produce needed results would not only be contrary to the established and proper partnership concept, but also would -- in the longer term -- have the Pyrrhic effect of reducing CP's efficiency and quality as well as its effectiveness as an FAO/Bank bridge.

61. Assuming the value -- and continued existence -- of CP as more than a "stable," we have proposed changes in Bank/CP operating procedures to improve the relationship. Complementary changes in the Bank's and CP's management systems are also necessary.

Manpower vs. People

61. First, to make possible the greater CP/FAO interaction we have described, the Bank "contract" with CP will need to be in terms of a given number of man-years rather than a given number of designated people full time.* To assure

* The Bank, however, should continue to approve CP recruitment actions.

that the work derives full benefit from CP's close knowledge of Bank needs, a ceiling will need to be agreed between the Bank and CP on the amount of CP time that can be exchanged for FAO time -- perhaps in the neighborhood of 15% to 20% of CP's net "operational" direct-hire time (i.e. net direct-hire time allocated to Bank operating units). The Bank/CP "contract" is discussed further in Paragraph 73.

Project Generation Planning

62. Second, because of their impact on the subsequent volume and quality of Bank operations, the preappraisal activities of the Bank -- as well as those of CP -- should be managed more systematically. Routinely, a Bank staff member (and alternate) should be designated as responsible for each potential project, for overseeing and making the necessary contributions to project definition and preparation work. In addition, the Bank should practice more systematic and earlier project generation planning (extending at least 3 years ahead) in order to bridge more effectively the gap between the Bank's Country Program Papers (CPPs) and appraisal work and, more specifically, to:

- Improve the quality of preparation assistance work through increased bus-stopping, which requires longer preparation lead times,
- Have sufficient advance notice of preparation needs to improve the Bank's and CP's scheduling, diminish preparation workload peaks and dips, and reduce the frequency of inefficient (and exasperating) emergency interventions, and
- Facilitate delegation to CP of the task of producing planned results rather than inputs.

63. While no Bank planning system can entirely eliminate the need for sudden shifts and adjustments, a system which catalyzes advance thinking about who will be responsible for project definition and preparation assistance, what method will be used and how much manpower will be required is likely to diminish some of the uncertainties which the absence of such a system makes inevitable. The CPP-based project generation planning system we have proposed could ultimately be grafted onto the Bank's recently instituted but less management-oriented Project Brief system.*

Information Flow to CP

64. Third, the flow of information from the Bank to CP should be improved. Because CP needs to remain au courant with Bank thinking, it should routinely receive agriculture issues papers, decision memoranda and supervision reports as well as relevant CPS and DPS working papers. As an aid to planning and scheduling, it should have P&B's IVA and IVB lending operations tables, agriculture project and sector work timetables, copies of the proposed project generation reports, and Bank print-outs of CP time reporting data. For reference, it should receive the Loan Committee summaries (confidentially), and several copies of Central Projects Memoranda.

* Although our review has been limited to agriculture, we see no reason why the proposed project generation planning system should not be applied to all sectors.

DIRECT FAO/BANK RELATIONSHIPS

65. To supplement today's essentially ad hoc and personally-based Bank/FAO coordination where CP is not involved, we suggest that non-CP Bank/FAO liaison responsibilities be formally assigned to an IC Deputy Director (discussed subsequently) and that the Washington-based FAO Regional Office assist him as necessary. The IC is uniquely situated to have the familiarity with both Bank and FAO activities that effective liaison requires.

66. Subject to the limits of available time, the liaison function would entail keeping staff throughout the Bank as well informed as possible of FAO activities of potential relevance and assuring that proposed FAO liaison points under the Assistant Directors General for Economic and Social Policy, Agriculture, Fisheries and Forestry as well as CP are kept fully informed of Bank work of potential relevance. The liaison activity should be a supplementary catalyst to voluntary interaction, not an exclusive or mandatory channel. For the Bank, a knowledge of outside thinking, work and developments is especially important in agriculture, given the breadth, complexities and priority of the sector and the amount of activity occurring in it. For FAO, the improved capacity to spot opportunities for mutual interaction with a major financing agency will provide benefits in potential impact as well as exposure to an intense investment orientation.

67. In addition, we suggest (and have prepared a draft of) an FAO directive designed to encourage and provide ground rules for occasional informal "hitch-hiking" by the Bank on FAO's extensive field establishment. The Bank would issue a complementary directive advising its agriculture staff about the arrangements.

THE UNDP DIMENSION

68. At relatively minor expense, we believe the investment and resulting developmental impact of FAO's UNDP-funded projects -- particularly those designated as having investment potential -- can be significantly increased.* This will require systematic infusions of investment expertise into such projects -- starting as early, in some instances, as the FAO/UNDP country programming stage. While the method of financing such infusions (e.g. from FAO's 14% overhead fee, direct UNDP-funding or a separate charge in project budgets) is beyond our terms of reference -- except that it would continue to be CP-funded for World Bank "special interest" projects -- we believe the infusion should be made largely through reimbursed "slivers" of Investment Center (including CP) staff time under the purview of two full-time IC "UNDP Coordinators." Performance of this investment infusion function through

* These projects have included such activities as: feasibility studies (e.g. Peru Huaura Valley, Cyprus Paphos Nepal Gandak), agricultural planning (e.g. Tunisia, Indonesia), adaptive research (e.g. Near East Cereals, Thailand Rubber), resource surveys (e.g. Brazil Forestry, Bangladesh Land Capability Studies, Indian Ocean Fisheries), institution building (e.g. Yemen Agricultural Extension, Afghanistan Credit) and crop diversification studies (e.g. Ceylon, Guatemala).

reimbursed slivers of time from many IC staff members rather than through the full time of a smaller number of people will bring to bear the investment focus that results from constant contact with financing institutions combined with the subsector expertise that IC's size permits.

69. With respect to the Bank's role vis-a-vis FAO/UNDP projects, we recommend that CP routinely screen such projects to suggest candidates for Bank declarations of special interest. When such declarations are made and when CP is designated as "watching agent" (i.e. for the "investment potential" but not the "investment support" projects), an agreed "watching" procedure (which we have outlined elsewhere) should be followed. CP should then report annually to the Bank on the status of such projects and the watching tasks performed.

CP MANAGEMENT

70. The Investment Center will need to enhance its already stretched management capabilities to cope successfully with complexities arising from:

- The sharp growth of Bank lending and the rapid evolution of Bank policies in agriculture,
- Increased bus-stopping,
- The more extroverted role towards FAO, including time exchange, UNDP infusion, and the CGFPI liaison responsibility,
- The likely rapid growth of the IC "Central Office" due to increased demands from OPEC financing sources, the Bankers' Programme and regional institutions, and
- The presently unknown impact of the International Fund for Agricultural Development (which could become a factor of sufficient magnitude to warrant re-examination of our structural recommendations).

71. The FAO/WB CP should continue to be centered in Rome to facilitate interaction with the rest of FAO, but its internal management should be tightened and strengthened, as discussed below. The scale and urgency of IC activities no longer permit exclusive reliance on what has been essentially a "family" style of management.

CP Management Systems

72. To permit the CP "contract" to be in terms of man-years rather than full-time staff members and to provide needed management information (e.g. re the level of non-operational time), CP must enforce an effective time reporting system. To manage its own activities properly and provide individual Bank managers with information sufficient to make them feel at ease looking to CP for results rather than inputs, CP needs to maintain (and furnish the Bank with) project generation timetables showing deadlines for key events in the process (e.g. completion of project definition reports, preparation issues papers, preparation reports). To permit the discipline required for internal management

and control and the avoidance of excessive external second-guessing, CP needs to aggregate these agreed timetables, combine them with its plan for non-preappraisal activities and produce an annual CP work program.

73. For good planning and preappraisal management, each Bank Region and CPS needs to know the net CP "operating" time it can expect to receive during the year -- i.e. time for preappraisal, appraisal, country economic/sector work, supervision and UNDP investment potential special interest work. This, combined with the need for an agreed range of CP managerial discretion, requires establishing the limits of "non-operational" CP activity. Such limits should be established through agreed indicative ceilings (initially on a trial basis) for:

- Professional development (other than appraisal and supervision mission participation, which would have a ceiling too, but is an "operational" activity),
- Direct FAO support (e.g. assistance primarily for FAO benefit which is uncompensated by time exchange or reimbursement), and
- Management and administration (i.e. staff supervision and administrative support provided by professionals).*

74. Much of the FAO support and professional development activities will be performable during what otherwise would be unavoidable "down-time" (e.g. time lost due to mission cancellations, scheduling hiatuses or limitations on the amount of travelling a staff member can be expected to undertake). When the ceilings for these two activities fall below the level of unavoidable and unconvertible down-time, the ceilings should be raised rather than have staff unoccupied. The aggregate ceiling on non-operational time should initially receive more emphasis than the sub-ceilings, which should be viewed more as planning targets.

* On a base of 100 man-years, of which 80 was direct-hire and 20 for consultants, the CP direct-hire ceilings might, for example, be management and administration -- 13 man-years (of which 7 would be for administrative support); direct FAO support -- 5 man-years; professional development -- 5 man-years. (Two man-years of the latter categories would be composed of 25% shares of "Senior Specialists" (discussed subsequently)).

Total "operational" time available for Bank work would then be approximately 77 man-years or 57 direct-hire (including time-traded) man-years plus 20 consultant-funded man-years. (In deriving the sub-allocations to Bank Regions of net usable operating time, the direct-hire man-years should be converted to man-weeks at the rate of 40 per man-year to allow for holidays, leave and minor overheads such as staff meetings, personal matters, etc.).

75. The linking of the CPP-based project generation planning system we propose for the Bank (initially in agriculture) with our proposed Cooperative Programme timetables, work program and budget process, and the accomplishment of required improvements in CP's time reporting practices will, in combination, contribute importantly to the smooth and successful meshing of Bank and CP efforts. It will improve the level of mutual confidence in as well as the efficiency of the Bank/CP relationship.

76. In addition to these fundamental management system improvements, the administrative support activities of the CP need rationalization and streamlining along lines we have indicated elsewhere.

Professional Development

77. The IC needs to be more deliberate and systematic in seeking continuously to enhance the productivity and effectiveness of its professional staff. Measures to this end not only will keep the IC creative and attractive to the best staff but also -- through improved preparation work -- will yield high returns in the efficiency of appraisal work and may even improve project implementation.

78. The CP service chiefs have a continuing and indispensable managerial responsibility to enhance their staffs' overall capabilities and productivity, but there is also a need -- in this complex sector of rapidly evolving methodology -- for leadership and guidance at the subsector level. We propose that IC designate "Senior Specialists" in each subsector to play a lead role in professional development, policy guidance, and FAO liaison. They would continue to report to their service chiefs but in their capacity as Senior Specialists (no more than 25% of their time) would be under the functional oversight of the front office.

79. In their respective disciplines (e.g. irrigation, livestock, agronomy), the Senior Specialists would coordinate the development of preparation guidelines and standard formats, liaise with counterpart FAO technical divisions and CPS Advisers, participate in report reviews and debriefing sessions, arrange seminars and case study sessions, occasionally -- in an "elder statesman" capacity -- visit missions in the field to advise on particularly difficult subsector problems, and participate in FAO's inter-divisional working groups. Periodically, they would meet under front office chairmanship as the "Investment Center Policy Advisory Committee." The present Senior Agricultural Adviser would assist the Deputy Director in coordinating the non-operational work of the Senior Specialists and would act as the Senior Specialist for rural development.

80. To keep CP staff au courant with Bank thinking and sensitive to the problems of project implementation, CP also should set goals for staff participation in Bank-led appraisal and supervision missions. Specifically, CP staff with more than one and less than seven years' experience should -- to gain a first-hand feel for Bank policies and requirements -- participate in one Bank-led appraisal mission (of a project they did not prepare) every third year and -- to maintain realism -- participate in one Bank-led supervision mission (of a project they helped prepare) every second year. Assuming

no change in productivity and constant preparation workload, this would necessitate a growth in CP staff (of perhaps 5%) but would not have any additional cost to the Bank as the participation would be in lieu of Bank staff or consultants.

81. A further ingredient of professional development -- "feedback" -- needs strengthening. In their biannual visits to Washington, the CP service chiefs should set aside time to receive explicit feedback from Bank mission leaders and division chiefs about work done in the prior period. The feedback should then be transmitted to the CP staff. For similar purposes, CP needs a simple but formal system of annual performance reviews. In addition, each service should institute routine debriefings after the return of project definition or final preparation missions. They would be attended by all members of the service and all IC staff specializing in the subsector involved. Such debriefings, in addition to helping mission members spot latent issues, will help broaden the perspective of attending staff, deepen their understanding of evolving CP standards and reinforce the CP's collective sense of professional esprit. Debriefings of especially interesting projects could be IC-wide.

IC Top Management and Structure

82. IC's top management level must -- in addition to its operational duties -- provide active leadership and coherence to the staff development efforts we consider necessary, spearhead the creation and updating of IC policies, standards and guidelines and stand ready to advise the Bank on selected policy issues. Also, it needs to pursue actively the goal of strengthened IC/FAO relationships.

83. For the long term, we recommend a triumvirate at IC's top management level -- a Director, occupied heavily with externally-oriented functions including special priority assignments for the Director General (e.g. CGFPI liaison); a Deputy Director for CP Operations (DD/CPO) to oversee Bank-related work; and a Deputy Director for Policy, Professional Development and Liaison (DD/PPL). IC's Director has proposed also appointing an additional Deputy for the IC's non-Bank-related activities because of the importance, variety and volume of external relationships these are expected to entail in the coming year.

84. The Deputy Director, PPL -- a "staff" executive -- would spend a significant portion of his time at the Bank "absorbing" policy trends and spotting opportunities for useful direct (i.e. non-CP-related) Bank/FAO coordination. When in Rome, the Deputy would perform a similar and complementary liaison function in FAO, serve as or oversee the IC representative on many FAO inter-divisional working groups, and oversee IC's "FAO support" activities. He would be responsible for planning, coordinating and directing the non-operational work of the Senior Specialists and would also supervise the Senior Adviser, Senior Agricultural Adviser and the Information Center. He would chair the internal "Policy Advisory Committee."

85. The Deputy Director for CP Operations would direct the Bank-related work, including particularly the development and negotiation of CP's work program, the review of quality on a selective basis, and the coordination of inter-service staff sharing and CP/FAO time exchange.

86. In the near term, the IC Director expects to be able personally to assume the responsibilities of the proposed Deputy Director for CP Operations and personally to direct implementation of most of the recommendations of this study. He intends, for this purpose, to diminish his externally-oriented duties. If the Director's personal external responsibilities can be held to a minimum (perhaps less than 20% of his time) and if the non-CP Deputy post he has proposed is created and filled, performance by the Director of the functions we have envisaged for the DD/CPO can be a viable alternative to our recommended top-level structure.*

CP Services

87. We recommend that the CP have three services in lieu of the present two. Respectively, they should -- for the best balance of workload, travel patterns and language ability -- encompass the work of LAC and WAF; EMENA and EAF; and the two Asia Regions.** Creation of a third service will have some cost in scheduling flexibility, subsector specialization and an increased need for inter-service sharing. The cost, however, should be outweighed by a significant enhancement of each service chief's capacity to manage the work and people for whom he is responsible -- i.e. to assess and develop his staff's capabilities, enhance the quality of his service's work and maintain the necessary close relationships and dialogue with his counterpart managers in the Bank (of whom there are more than twelve for one of the present service chiefs). Moreover, the reduced critical mass from a third service will be partially offset by inter-service loans arranged between the chiefs or, when necessary, with front office assistance. The danger of increased CP fragmentation will be overcome by the CP-wide scope of Senior Specialists and the Policy Advisory Committee, cross-service participation in debriefings and the Report Review Committee, and periodic optional (perhaps triennial) rotation of staff among services.

88. By Bank span-of-control standards -- e.g. deputy chiefs for projects divisions with 13 or more professionals -- one could justify five or six services. That, however, would create such a severe need for inter-service sharing that most scheduling decisions would be forced up to the front office -- which would sharply reduce the service chiefs' individual capacities to make firm commitments to Bank managers as well as their ability to control and upgrade the activities for which they were responsible. The Bank's span-of-control standards are, in any event, not directly applicable to CP's first-line supervisors because -- unlike Bank division chiefs who are responsible for project administration and sector work as well as project definition, prepara-

* For short-term budget purposes, the additional time spent by the Director can be regarded as offsetting the diminution of DD/PPL time devoted exclusively to CP work.

** The split of Africa reflects the comparative ease of North/South and difficulty of East/West travel in Africa, the possibility of travel from West Africa to Latin America and the fact that many of CP's people speak both Spanish and French.

tion and appraisal -- the CP service chiefs are responsible only for pre-appraisal work. Moreover, in overseeing this work they supervise primarily the mission leaders, who at any one time constitute perhaps a third of their subordinates and who absorb some of the leadership and development tasks with respect to more junior staff.*

Operations Officers

89. The CP service chiefs should each have an operations officer to assume much of the burden of expediting report production and consultant recruitment, overseeing filing, arranging debriefing and report review meetings, coordinating time reporting, assigning and handling problems of clerical staff and assisting with mission scheduling and the maintenance of project timetables. We do not believe these functions require deputy service chiefs or justify the diversion of valuable senior staff and additional layering that such deputy positions would entail.

OVERALL IMPACT

90. Taken together, our recommendations can have an important impact on the future activities of the two parent organizations and the benefits received by their member countries. We believe that significant productivity improvements will result over time -- e.g. from improved Bank and CP planning, increased bus-stopping, better communication, accelerated CP staff development, streamlined operating procedures, strengthened CP management and improved administrative support -- but recommend that these productivity gains be used to finance the staff time needed for long-term quality improvements. The quality improvements will themselves further increase productivity.

- Better prepared projects will result from having staff whose potentialities are fully and rapidly developed and who have more complete up-to-date policy guidance. Such projects are likely to be easier and more efficient to appraise.
- Greater country understanding and commitment can flow from the increased bus-stopping our recommendations facilitate. Such commitment and understanding is likely to result in improved and more efficient implementation.
- Increased levels of agricultural investment in the developing countries are likely to result from improvements in the investment orientation of FAO/UNDP investment-potential projects -- and the investments that do result from such projects are likely to be more productive.

* We also considered the alternative of two Services each with two subordinate managers, but rejected it because of the need it would create for six rather than three senior service managers, the additional layering it would involve in a context already suffering from a flat senior grade structure, and the further loss of critical mass that would result if each service's staff were divided between its two subordinate managers.

- An improved capacity in IC and the rest of FAO to complement each other's strengths can enhance the impact of both -- while at the same time increasing their productivity and facilitating direct Bank/FAO cooperation (which can have similar effects).
- Better Bank preappraisal planning can contribute importantly to an expanded and better-prepared pipeline of financeable agricultural projects as well as a more effective Bank/CP partnership. It can thereby help improve and accelerate Bank lending to -- and related agricultural and rural development in -- the member countries.

* * * *

91. We have made no recommendations about the CP's growth rate. It will depend on such diverse and hard-to-assess factors as the:

- Bank's rate of lending for agriculture projects which need preparation assistance and are not prepared through "piggy-backing" or with the help of consultants or Bank field staff -- a rate that cannot usefully be predicted until a Bank project generation planning system exists,
- Willingness of Bank managers to use CP -- which could be significantly affected by this study,
- Rate of increase of bus-stopping (which can increase CP productivity),
- Willingness and ability of CP to compete with the non-CP part of IC and the International Fund for Agricultural Development for suitable staff,
- Development of a Bank "Third Window," and
- FAO budget priorities, which are hard to predict.

92. We would be surprised, however, if the level of CP man-years did not increase at a rate of at least 5-10% per year. For time exchange reasons already discussed, the number of direct-hire CP staff members could grow more rapidly than the man-year budget.

COOPERATION BETWEEN FAO AND THE WORLD BANK

ANNEXES

The following annexes provide further analysis and data to support the points made in the report. They also, as appropriate, discuss alternatives that the task force rejected and provide detail useful in implementing the recommendations that have been made.

There are eight annexes:

- Annex 1 Comparative Advantages: Role of the CP
- Annex 2 Bank/CP Operating Procedures and Approach
- Annex 3 IC/FAO Relationships
- Annex 4 IC Location, Structure and Management
- Annex 5 Bank/CP Coordination, Planning, Budgeting and Control
- Annex 6 Direct FAO/WB Relationships
- Annex 7 UNDP, WFP and TF Aspects
- Annex 8 Budgeting and Staffing Implications

Following the annexes is a section entitled "Basic Reference Data" (BRD) which contains facts about the IC, the FAO/Bank relationship, the UNDP dimension and existing practices and procedures. Those not having a detailed familiarity with the subject may wish to peruse this section before reading the annexes.

COMPARATIVE ADVANTAGES: ROLE OF THE IC

In this annex, we review in turn (1) widely held viewpoints about the strengths and weaknesses of the Bank, FAO and CP and the proper role of the latter, (2) our conclusions about the three organizations' areas of comparative advantage and CP's proper role, and (3) our resulting recommended objectives for the CP. The attachment to this annex addresses CP's role in complex rural development projects.

I. CONSENSUS DATA

A. Strength and Weaknesses

While no task force such as this can have the competence, knowledge or time to reach its own definitive judgments about the quality of substantive work being done, we have been able to garner the opinions of large numbers of people whose collective viewpoints are not likely to be far from the truth.* We summarize the opinions below in what might be called "consensus portraits" of:

1. CP
2. The Bank
3. FAO

Although these consensus portraits are perhaps a bit sensitive, any assessment which wholly ignored the quality dimension would be irresponsible. Moreover, judgements about the proper roles of CP, FAO and the Bank must, to be logical, be based on conclusions about their comparative strengths and weaknesses.

1. CP

- (a) Overall. The CP is seen by itself, as well as by FAO-proper and the Bank, as isolated within FAO even though all three recognize the potential value of greater interaction. FAO, though bothered by CP's apparent air of superiority, sees the CP as a potentially valuable source of action-oriented ideas and staff. Bank managers see CP as the single most valuable source of preparation assistance but, lacking confidence in its responsiveness to the pressures under which they operate, would prefer to control its staff directly.

* We have not gone to the recipient countries to judge quality, because the time was not available to canvass a sample adequately diverse to assure representativeness. Nor have we sought to reach quality judgments based on case studies, because this would have required a full knowledge of the contexts and special factors involved - which would have (at least in our time-frame) been impossible to obtain.

- (b) Professional Competence. There is wide Bank consensus that in overall professional competence CP staff members are comparable to Bank projects staff. There is also wide FAO consensus about CP staff members' high competence.
- (c) Technical vs. Non-technical Competence. CP work is thought by Bank people (and CP people as well) to be particularly strong technically but less strong with respect to financial, institutional and managerial aspects (which tend to become ripe for solution in the later stages of project processing).
- (d) Compared to Consultants. For preparation assistance work, a large majority of Bank agriculture staff consider CP better than consultants except where detailed engineering is required. CP can be more conceptual than consultants, requires (and usually receives) less explicit instructions and is much more aware of Bank needs and requirements. Also, Bank staff believe that CP can usually produce what is needed faster, more compactly, and at less cost than consulting firms.
- (e) Compared to Regional Missions. CP and the Bank's regional missions in Africa are viewed by Bank staff but not all CP staff as somewhat interchangeable with respect to preparation work. They have very similar capabilities and inherent sources of difficulty. The latter include such things as the somewhat ambiguous role between countries and the Bank, problems of communication with Bank headquarters and a diminished susceptibility -- compared to Washington staff -- to control by Bank projects Division Chiefs and Assistant Directors.
- (f) Subsectors.* CP is widely viewed in the Bank as especially strong in forestry and fisheries work and weak in agro-industries. Also, its superior linguistic versatility compared to that of any single Bank Region is a recognized asset. As a general matter, the East Asia Region is less satisfied with CP than the other Regions. FAO forestry people share the Bank's high regard for CP's forestry skills, but FAO fisheries people

* A summary of the comparative advantages and roles of CP and the Bank in the preparation of Integrated Rural Development Projects is presented in Attachment 1.

doubt that the two CP fisheries staff members -- though recognized as highly competent specialists -- can alone provide the breadth of coverage that is needed.

2. The Bank

- (a) Overall. The Bank is seen by its own staff as well as by CP and FAO as powerful, usually effective, inner-directed, super-busy and somewhat arrogant. It is seen to need (and, at least in the opinion of its own staff, is seen to value) strong linkages to external sources of expertise, development assistance thinking, and constructive criticism. It is regarded as the preeminent development financing institution.
- (b) Investment vs. Development. In FAO and CP eyes, Bank staff are widely seen as too prone to equate development and investment, to underestimate the significance of activities (such as resource evaluation, information exchange and technical assistance) which may have little direct impact on investment but great long-term importance for development. Bank "lending program pressures" (i.e. apparent greater concern with commitment than disbursement) are seen sometimes to generate unreasonable impatience with developing country (and FAO) desires and constraints and are sometimes thought to endanger the quality of projects.
- (c) Inconsistency. Since its reorganization, the Bank has -- in CP eyes -- developed inconsistencies of approach among its six Regions, and between them and CPS.
- (d) Identification. CP and the Bank concur that Bank "project identification" -- meaning, usually, project definition -- work is of highly variable quality.

3. FAO

- (a) Overall. FAO-proper -- although viewed by most Bank and CP staff as insufficiently action-oriented for Bank and CP tastes, uneven in the quality of its staff, politically sensitive, bureaucratic and not strong administratively -- is widely seen by both

CP and Bank staff as having a large number of extremely able staff whose knowledge and capabilities are relevant to Bank, IC and other investment-oriented work.

- (b) Depth of Expertise. The principal strength of FAO is seen (in all quarters) to be its great depth of authoritative expertise in the widely varied subsectors of agriculture.
- (c) Subsector Compartmentalization. There is CP and Bank consensus (and much agreement in FAO) that -- at least from the point of view of investment results -- FAO is in many activities weakened by problems in bringing to bear a multi-disciplinary approach (within agriculture). There is, however, broad recognition in the CP and FAO of numerous recent efforts to offset this perceived weakness.
- (d) Skepticism. Bank and CP staff (together with many in FAO-proper) -- while acknowledging the utility of an expanding intellectual infrastructure to underpin development-related and other decisions -- are uncertain about the relative priority that should be accorded to some of FAO's information exchange and data collection activities.

B. Variant Concepts of CP's Role

Between Rome and Washington, somewhat different concepts of CP's general role emerge, although the differences tend to be differences of degree.

1. CP Concept. CP tends to think of itself as ideally being an impartial and disinterested adviser to countries when compared to the Bank -- which CP sees as less disinterested because of its eagerness to lend. A legitimate CP role is seen to be to help the developing country, when necessary, "stand up to" Bank pressure and, in other cases, advise the country to do things the Bank favors but the country would rather avoid. CP people find Bank pressure to have them prepare projects to pre-determined specifications which they have not been instrumental in developing contrary to this concept of their role.
2. Bank Concept. Bank people readily concede that the country -- not the Bank -- is CP's proper "client" in preparation assistance work; that the CP should,

under strong substantive leadership, exercise independent judgment in providing advice and assistance and not hesitate when necessary to disagree with the Bank or a developing country. Five of the six Regions believe CP does now strike a reasonably good independent balance between responsiveness to Bank and country desires. They believe CP should be willing to recognize, when this is clearly explained by the Bank, that because projects are sometimes means to broader institutional changes rather than simply ends in themselves, the technical dimensions of project excellence may not always deserve pre-emptive emphasis.

II. CP'S COMPARATIVE ADVANTAGES AND RECOMMENDED ROLE

Based on the strengths and weaknesses of the three organizations, we believe that with respect to the various categories of FAO and Bank activity, the CP has the following comparative advantages and disadvantages. These judgements underlie our conclusions about CP's proper role.

A. Bank Work

1. Country Economic/Sector Work. CP has no comparative institutional advantage in Bank country economic/sector surveys except where a subsector is concerned in which they have the advantage of special expertise. To the extent that a given piece of sector work is intended to promote Bank/country dialogue, CP is, of course, at a disadvantage.

2. "Identification"

- (a) Project Recognition. CP has no comparative advantage or disadvantage vis-a-vis the Bank in the recognition of potentially viable project ideas. Its extensive country exposure and pre-investment experience do, however, in most cases give it an advantage over the rest of FAO.
- (b) Project Selection. Project selection, in its narrowest sense, is a non-delegable Bank function.
- (c) Project Definition. CP is given an advantage in project definition work by its great depth of experience in preparation assistance. Beyond that, many of the advantages it has in preparation assistance also pertain to project definition.

3. Preparation Assistance. Project preparation assistance is the forte of the CP. Its superior knowledge of Bank requirements gives it a major advantage over consultants in most cases. It generally also has an advantage over the Bank in preparation work because of its:

- Separateness from the Bank, which makes it more possible for the Bank on appraisal to question or countermand the preparation work without appearing embarrassingly redundant or self-contradictory
- Depth of technical expertise, compared to any one Bank division
- Comparatively ready access to the technical resources and expertise of FAO
- Freedom from the competing pressures of appraisal and supervision work
- Capacity, up to a point, to withstand Bank pressures to hurry up the process where these might be counterproductive
- Capacity to assist countries in reaching decisions about how to deal with the Bank
- Extensive and multi-regional preparation assistance experience
- Lower cost (to the Bank) per man-year -- by more than 35%.

These advantages, in our opinion, outweigh the disadvantages of:

- Structural and geographic inaccessibility, compared to Bank staff
- Occasional weakness in institutional aspects and problems due to inadequate CP "feel" for Bank policy and strategy
- Greater Bank difficulty in influencing projects at a stage when the options are most fluid
- Inability, when CP is used, to merge preparation and appraisal work without changing the staff involved
- Increased delays after preparation.

4. Appraisal and Supervision. Appraisal and supervision are essentially non-delegable Bank functions. CP cannot perform them for the Bank. Individual CP staff members, however, certainly can -- from time to time -- participate in and contribute fully to such work and benefit from the consequent exposure to Bank methodology and thinking.
5. Other. It should be mentioned that some Bank Regions feel that CP's collective linguistic virtuosity gives it a capability they can well take advantage of (e.g. Spanish in WAF, French and Italian in EAF, Portuguese, etc.). Also, the CP, with its proximity to FAO, has a comparative advantage over the Bank in the latter's very lightly staffed fisheries and forestry sectors.

B. FAO-Related Activities

1. UNDP Work. Compared to FAO and UNDP, the IC is uniquely equipped to serve as a nucleus for the infusion, where desired, of greater investment expertise into FAO-executed UNDP funded projects. This comparative advantage stems from its intense investment orientation and expertise, constant close contact with financial institutions, extensive country exposure and its capacity -- because of its size -- to bring to bear a meaningful level of subsector specialization within the framework of an integrated multi-subsector approach (see Annex 7 for further discussion).
2. Assistance to Other FAO-related work. The considerations listed immediately above also pertain to IC's advantage to the FAO regular programme, trust fund and WFP projects as a compact source of investment-oriented expertise.

C. FAO/Bank Policy Coordination

CP is in a unique position to see both the Bank and the FAO side of policy questions. It is, however -- and should be -- predominantly operational in its orientation. While it may be best situated to coordinate all FAO's relations with CGFPI and some areas of Bank/FAO interaction, there are many areas of Bank/FAO interaction where it has no comparative advantage (e.g. commodities work, food balance analyses, research, etc.). (see Annex 6 for further discussion).

III. OBJECTIVES

Consistent with the foregoing assessment of comparative advantages, we believe that the CP has three key objectives -- to help:

1. Countries create projects suitable for World Bank financing;
2. The Bank and FAO interact and coordinate in ways that enable each to benefit from the other's strengths in pursuing the shared priority objective of accelerating agricultural development in developing countries;
3. FAO realize the full investment potential of its activities.

In general, it is performing the first objective effectively, although significant process improvements (which we discuss in subsequent annexes) are possible. There is room for substantial improvement, however, in its performance of the last two objectives.

MULTI-SECTOR RURAL DEVELOPMENT PROJECTS

While we did not focus our detailed attentions on multi-sector or integrated rural development projects, we were requested to review the subject in the context of our examination of CP's role. Our findings and conclusions follow.

A. Profile

1. Innovative Nature. Preparation assistance for multi-sector or integrated rural development ("IRD") projects is a relatively new, somewhat experimental but rapidly expanding activity both for the Bank and CP. Methodologies are extremely fluid and each of these projects tends to be unique.
2. "Softness". IRD projects are characteristically "soft" and politically highly sensitive. Because of the special importance and complexity of their institutional dimensions and the country-specificity of their political aspects, criteria concerning the design of these projects tend to be particularly loose and open-ended. The judgments to be made, therefore, are even more subjective than in other sub-sectors and, as a consequence, the difficulty of anticipating Bank preferences is greatly magnified.
3. Fluidity. IRD projects are also unusual in the extent to which precise definition at preparation or appraisal is less likely to preordain the pattern of implementation and is of less significance than effective management during implementation -- given the possibilities for national policy (and power relationship) shifts during implementation and the desirability of responsiveness to evolving local wishes.
4. Multi-sectorality. While usually having a major agricultural development component, many IRD projects are multi-sectoral.

B. Assessment

1. Bank Involvement. Deep and direct Bank involvement in preparation assistance for IRD projects has been justified on the ground that this is a pioneering field where preparation experience can accelerate

the evolution of effective appraisal criteria. A second reason has been the Bank's feeling that it can be more effective during preparation than during appraisal or implementation in nurturing the requisite political willpower and commitments. A third reason is the Bank's comparative advantage in coping with the inter-sectoral aspects (e.g. Mexico, "Presidencia" project; Algeria, Rural Development Program).

2. CP Involvement. The CP tends -- because of its staffing, general orientation and affinity with country agriculture ministries -- to see rural development from an agricultural starting point and is well equipped to assist in the preparation of IRD projects with a major agricultural component (e.g. Yemen, Southern Uplands; Y.A.R. Wadi Hadramaut; Philippines, Mindoro; Mexico, Papaloapan, etc.). It is capable also of addressing non-agricultural aspects with the help of consultants.
3. Importance of Project Definition. Whether preparation assistance is offered by the Bank or CP, the project definition phase of multi-sector IRD is particularly important, partly because of its extreme difficulty.
4. Bus-stopping. Because of the critical importance of country commitment and follow-through in multi-sector IRD projects a bus-stopping approach to preparation assistance is clearly essential.

C. Recommendations

1. Comparative Advantage. Both the Bank and CP have experience in preparation assistance work on IRD projects but the Bank has a comparative advantage with respect to those which have major inter-sectoral or national policy implications.
2. Process. Full and early involvement is especially necessary in IRD projects. Moreover, where CP is involved the Bank/CP dialogue after (or during) project definition is particularly important. It should usually occur face-to-face, and perhaps begin in the field at the end of the project definition mission(s). For multi-sectoral national policy-laden IRD projects, inescapable prerequisites to successful preparation are:

- (a) Unusually detailed project definition,
- (b) Local preparation teams, and
- (c) A bus-stopping approach.

3. Task Force on Training. There is little doubt that the managerial challenge of multi-sector IRD projects is awesome -- given their emphasis on integration, multi-sectorality, decentralization and local participation and given the number of ministries and levels of Government likely to be involved. Yet good middle managers in developing countries are in critically short supply. The Bank with FAO assistance should, we believe, begin to focus frontally on this problem rather than purely on a project-by-project basis. Probably, a task force should be established to examine whether an institution -- perhaps, for example, an EDI satellite -- is needed to exert a leadership role in developing methodologies for such training, training trainers and better defining what skills need to be imparted. (Probably the task force, in addition to FAO, EDI and Bank CPS/ARD representation, would benefit also from inclusion of two or three developing country officials with relevant and successful experience in multi-sector IRD).

BANK/CP OPERATING PROCEDURES AND APPROACHI. ASSESSMENT

In the following, we address in turn Bank/CP operating procedures affecting:

- A. Country economic/sector work
- B. Project identification
- C. Preparation assistance
- D. Appraisal and supervision

A. Country Economic/Sector Work

The present occasional and ad hoc participation of CP in Bank-led country economic/sector missions is satisfactory, as is the use of CP to perform selected sub-sector analyses (whether regional or limited to one country). Because the Bank's broad agriculture-wide country sector surveys usually have objectives beyond mere sector analysis -- i.e. of promoting Bank/country dialogue, providing an occasion for developing or reviewing the Bank's assistance strategy and selecting projects that will further it -- these are not normally amenable to full performance by CP.

B. Project "Identification"

1. Project Recognition and Selection. The present ad hoc participation of CP in Bank-led reconnaissance missions and occasional leadership of its own such missions on a sub-sector level is satisfactory. The CP staff feeling that the Bank does not welcome its project ideas may result from application by the Bank of broader criteria of selection than intrinsic project excellence (e.g. criteria such as project utility as a vehicle for institutional reform, IDA fund availabilities and country debt service capacity, the possible desire to focus effort on one particular sub-sector, etc.)

2. Project Definition.

- (a) Report Length. The CP "identification" -- i.e. project definition -- reports that are written are usually far longer than necessary for the purpose to be served. Sometimes such reports are several volumes long and include some of the detailed preparation work that project definition work is designed to render more efficient. The possibility that the Bank or the country, in reviewing a project definition report, may wish back-up data does not justify (at that stage) preparing in publishable form such a large amount of material.
- (b) Accountability. Where CP has not done the project definition work and is asked to do the detailed preparation, it is difficult and probably unfair to hold them accountable in cases where they may come to believe that the concept itself was faulty.

C. Preparation Assistance

In several respects, the approach to and procedures governing preparation assistance are susceptible to improvement.

1. Approach to Preparation Assistance.

- (a) CP Preference. CP is seeking increasingly to emphasize the bus-stop over the paratroop approach, to rely more heavily on local project preparation teams to do the work, subject to overall CP guidance. In our view, this preference is entirely sound because of the increased country project understanding and commitment likely to result and the training by-product. Bus-stopping also may make it possible sometimes to omit the formal CP preparation report (as in the Bangladesh Barisal Project).
- (b) Productivity Impact. The fuller country participation that usually results from (and permits) a bus-stopping approach greatly increases CP productivity, at least in those instances. With respect to CP-assisted projects whose preparation was completed in CYs 1973 and 1974, the average number of missions per project with "substantial country participation" was 2.2 (and 5 projects out of 31 had 4 or more missions); the average CP man-days devoted to such projects was 201. In the same period, for projects with "minimal country participation" the average number of missions was 1.8; none out of 29 had more than three missions, but the average CP man-days applied was 316 -- 56% more than in the cases of substantial country participation. (See Table 1.)
- (c) Bank Constraint. While Bank managers almost uniformly favour bus-stopping in principle, weaknesses in their present advance planning of pre-appraisal activity, combined with the significantly longer lead times that bus-stopping requires, constitute a barrier to bus-stopping and sometimes leave no alternative to the paratroop approach.

2. The Bank Role. Related to many Bank agriculture divisions' weaknesses in planning in advance for project generation activities (see Annex 5) is their frequent failure to designate specific individuals to be accountable for the pre-appraisal stage of each project. The result is often a lack of continuity in the Bank's monitoring of pre-appraisal activities.

(a) Pre-Mission Stage.

- (i) The terms of reference of CP preparation missions tend to be rather open-ended, stereotyped, and are reviewed only lightly by the Bank in most cases. Especially where there has been prior CP project definition work, this is not a root cause of major problems; considerable flexibility at this stage is desirable and a strength of CP -- and Bank reason for using it -- is its capacity to know or anticipate what the Bank will want.

- (ii) Where CP preparation missions (or their leader) come first to Washington for briefing, the Bank often is poorly prepared and the briefing not very useful.
- (b) Post-mission. Bank comments on CP Back-to-Office Reports are often inadequate and delayed even where issues have been highlighted for attention.
- (c) Report Clearance. There is nearly universal agreement in the Bank and CP that the Bank's comments on the yellow cover preparation report are almost always deficient. There are several reasons:
 - (i) Appraisal and supervision work have higher Bank priority than preparation, as a result of which the task of reviewing the often multi-volume draft preparation report is frequently performed hurriedly or assigned to a junior staff member;
 - (ii) Because of the above, Bank managers tend to have a fairly low level of confidence in the draft comments and "water them down" before transmitting them to Rome; poor communication and friction can result;
 - (iii) There are few if any criteria for the yellow-cover review. At one extreme it could constitute a desk appraisal; at the other it could simply be an effort to assure that no fundamental flaws are evident;
 - (iv) The whole review has a premature air -- especially where the country has been involved deeply in the preparation work -- as the imminent appraisal task will constitute the "ultimate" review;
 - (v) The very process of Bank review prior to country receipt of the report seems inconsistent with the premise that CP preparation assistance is a service rendered primarily for the benefit of the developing country and only secondarily for the Bank.
- (d) Post-Report.
 - (i) Without knowing how common it is, we have heard of instances where appraisal mission members (and leaders) arrive in the country without a good knowledge of the contents of the preparation report. Obviously, this is undesirable and likely to be discouraging both to CP and the country;

- (ii) Although it often does happen and is useful if preplanned, Bank missions en route via Europe to appraise a CP-prepared project do not routinely -- where there is to be no CP "bridging" role in the field -- stop in Rome for briefing by the CP;
 - (iii) The failure of the Bank routinely to transmit issues papers and decision memoranda to CP concerning projects CP has helped prepare makes it harder for CP staff to evaluate their own performance and sharpen their understanding of Bank thinking and preferences.
3. The CP Role. Preparation assistance procedures within the CP are reasonably effective.
- (a) Pre-mission Stage. It is probably a weakness that Washington consultations en route to LAC projects are only sometimes held. Also, more frequent consultations in advance of work in other Regions might -- despite the extra travel outlay -- yield high returns in the productivity of subsequent preparation work.
 - (b) Post-mission. Despite CP management exhortation, Back-to-Office reports still tend to be insufficiently issues-oriented. Debriefing meetings are held occasionally but not routinely.
 - (c) Report Clearance. CP's process for reviewing its yellow-cover reports is considered generally satisfactory by CP's staff as well as its managers. It has been acknowledged, however, that the review -- given the pressures to deliver -- comes too late for fundamental changes to result except in the most serious cases and that there is considerable variability in the standard of completed CP reports.
 - (d) Post-Report. The very useful "bridging" function is often not performed.

D. Appraisal and Supervision

We do not see any problem with the present ad hoc procedures for arranging CP participation in Bank-led appraisal and supervision work, but believe that targets should be set for the level and distribution of such activity, given its training value.

II. RECOMMENDATIONS

With respect to Bank/CP operating procedures and approach, we have two broad recommendations under which specific measures are proposed:

- A. Increasingly use the preferred bus-stopping approach in preparation assistance
- B. Streamline the Bank/CP procedures for project preparation

Recommendations on a related planning system for project generation are presented in Annex 5.

A. Increasingly Use the Preferred Bus-Stopping Approach in Preparation Assistance

1. Advantages of Bus-Stopping. The preferred "bus-stopping" approach in preparation assistance -- though slower in lapsed time -- should be used more frequently in lieu of the "paratroop" approach by CP because it:
 - Tends to enhance country understanding of and commitment to projects, both of which are normal requisites of rapid appraisal and successful implementation
 - More effectively trains country nationals in the work of project preparation, a task of major long-term importance
 - Facilitates the telescoping of preparation and appraisal work -- for example by making it possible in some cases for the Bank to appraise on the basis of country-prepared annexes plus a brief introductory section written by CP in lieu of a full preparation report
 - Increases the efficiency of CP's preparation assistance work.
2. Implications for CP Management. Increased use of bus-stopping will have several implications for the management of CP. Because missions will be smaller, a higher proportion of mission leaders will be needed. Because of the greater reliance on local preparation teams, preparation reports written in Rome will become less numerous, less directly indicative of the quality of work done by the CP team and less suitable as a vehicle for quality control by CP Managers. As a result:
 - (a) Professional Development. CP management's role in professional development -- before the fact quality enhancement rather than post facto quality control -- will become more important. (Annex 4 contains recommendations on this subject.)

- (b) Guidelines. CP's development and refinement of manuals, guidelines, standards, formats and other instructional material will become more important.
- (c) Multi-mission Travel. To minimize any increase in staff travel time, a premium will be placed on management's ability to combine in one trip visits to several local preparation efforts and possibly the work of more than one client bank. (This will make Bank intervention in CP mission scheduling more harmful than it is today).
- (d) "Down-time". Because CP staff now spend as much time away from home as is appropriate (roughly 100 days/year) and because the Rome report writing task will decline as a proportion of total effort, it will be necessary to find alternative uses for CP staff time in Rome and to involve more FAO staff (under CP mission leaders) in preparation assistance work. (This will be aided by our recommendations for facilitating increased interaction between CP and the rest of FAO. See Annex 3).
- (e) Direct Training. While we have not had time to explore its practical implications, it is possible that the change in emphasis would make time available for -- and logically be accompanied by -- CP activities aimed directly at enhancing the project preparation capacities of developing country nationals. These could include -- on a secondary and time-available basis -- such activities as development of training materials, participation in FAO training and EDI activities and perhaps even the conduct of occasional seminars or inclusion of developing country "apprentices" on preparation missions.

B. Streamline the Bank/CP Procedures for Project Preparation

Briefly our recommendations are to:

1. Make CP project definition work a normal prerequisite of CP preparation assistance work and shorten project definition reports
2. Increase Bank/CP person-to-person interchange during project generation
3. Rely on an issues paper prepared in Rome -- for fuller and earlier Bank/CP interchange before completing a full preparation report
4. Transmit CP preparation reports directly to countries, without Bank review at the yellow cover stage
5. During appraisal, provide CP with the Bank's issues papers and decision memoranda relevant to the projects they have helped to prepare.

These recommendations are framed in an assumed context of paratrooping -- for simplicity and because, despite our recommendations, we recognize that paratrooping is likely to continue to be common for some time.

1. Make CP Project Definition a Normal Prerequisite of CP Preparation Assistance Work

- (a) Normal Requirement. CP "identification" -- i.e., in this context, project definition work -- is not always explicitly done in advance of CP preparation work. It should be, in almost all cases. When CP is asked to help prepare a loosely and, in their opinion, poorly identified project it is hard to hold CP accountable for the result. Moreover, to the extent that major conceptual disagreements are found to exist or changes of direction are required, the preparation assistance effort is likely to be greatly reduced in efficiency. In the future, in those special cases where project definition has been completed without CP involvement, CP should not undertake the preparation assistance unless it can fully accept the project definition work that has been done.
- (b) Project Definition Report. The project definition report normally should not exceed 20 pages. That should suffice for its purpose of raising major questions and alternatives (with recommendations) in order to promote the reaching of fundamental decisions before the detailed preparation work begins. Sometimes after a project definition mission much more material is available than needed for this purpose; sometimes also detailed work is necessary to narrow or illuminate options. When such additional material is produced, it should be retained as working papers -- not published. A list of such working papers could be attached to the report. Publication of them at this stage is not worth the extra work and expense required and may create a bulk of material that discourages careful Bank and country review.*
- (c) Transmittal. The project definition report would be sent to the Bank for comment. Attached to it would be the CP's detailed proposal for conducting the preparation assistance work required. In cases where particularly difficult issues are discovered, face-to-face or telephone discussions should then be held to resolve them.
- (d) Debriefing. As the options at the time of project definition are particularly fluid, a service-wide debriefing session (to which selected FAO non-CP staff would be invited as well as specialists in the same subsector from other IC services) should be held within three days of the mission's return from the field.

* For reports other than Project Definition, no changes in format are recommended. Bank opinions differ widely on the preparation report. Some like as much detail as possible and a full background section; others would prefer a briefer format. To an extent, CP may already take into account divergent Bank Division Chiefs' preferences.

2. Increase Bank/CP Person-to-Person Interchange. As we have implied above, personal (and secondarily telephone) contact can often pay major dividends in the increased efficiency that comes from not retreading trod ground, working at cross-purposes or exploring in depth futile possibilities. It should be sanctioned more routinely -- especially whenever it can be accomplished through Washington or Rome stopovers and contemporaneous field visits -- and also encouraged in other cases of fundamental disagreement.
3. CP should Prepare a Preparation Issues Paper. Bank inputs to CP preparation work should take place before -- not after -- the major effort of report writing:
 - (a) Issues Paper. Within 10 days of a CP mission's return to Rome to write a preparation report, it should prepare an "issues paper" of less than 10 total pages summarizing the project, identifying issues, major alternatives and other aspects concerning which Bank guidance could be useful and indicating CP's actual or likely position on the issues. This paper should replace the present Back-to-Office report (which, in any event, CP management has been seeking to make more issues oriented).*
 - (b) Bank Comments. The issues paper should be telexed to Washington. Bank comments should be provided, also by telex, within 10 days.** We believe the Bank comments will be not only of greater utility because of their earliness in the cycle, but also of much higher quality because of (i) the brevity and focus of the document on which they are based (which will permit Bank managers to become involved); (ii) the likelihood that they can have an impact, and (iii) the existence of a pre-designated responsible Bank staff member.
 - (c) In-Service Debriefing. Based on the issues paper, the CP service concerned should hold a service-wide debriefing session (chaired by the service chief) after which the paper might be modified before transmittal to the Bank. (Notice should be given of this meeting so that interested FAO staff and specialists in the same subsector from other IC services can attend.) Report writing would begin immediately afterwards, focussing on areas where Bank comment is not anticipated. For particularly interesting cases, the debriefing session might -- for staff development and esprit purposes -- be IC-wide.

* Except where there is a Project Definition Report or Preparation Issues Paper, the Back-to-Office Report should be retained, as it is a vehicle for informing the Bank of progress in project preparation and highlighting key issues on which Bank views are sought. Brevity, however, should be emphasized.

** The Bank is in the process of leasing a line to Europe, which will sharply reduce the cost of Telex.

- (d) Assimilation of Bank Comments. Once received in CP, Bank comments would be carefully considered -- in the knowledge that they were likely to be reflected at appraisal -- and then incorporated in the report or rejected at CP's sole discretion. Where difficult issues were raised, it might occasionally be desirable for the Bank and CP to meet on the subject or further discuss it by telephone. Where CP intended to reject the Bank's viewpoint on a fundamental issue, it should notify the Bank in advance.

4. Transmit Preparation Reports Directly to Countries. The Bank's clearance of yellow cover CP preparation reports should cease because it:

- (a) Is inconsistent with the proposition that CP preparation assistance is a service primarily to countries and only secondarily to the Bank
- (b) Tends to further the failure of countries to distinguish between CP and the Bank and therefore -- on appraisal -- heightens the likelihood that the Bank will seem embarrassingly redundant and self-contradictory if it re-examines preparation conclusions and makes major changes
- (c) Is premature and perhaps even compromising, given the imminence of appraisal
- (d) Is unrealistic as a "screening" precaution, to the extent of country involvement in the preparation work
- (e) Given the size of the documents and the competing pressures of appraisal and supervision, is unlikely to receive from the Bank the quality of attention needed for a useful review -- and is therefore inefficient.

CP is used by the Bank because it has competence at the management and journeyman levels to do acceptable work. The Bank review at this stage is unnecessary as well as inappropriate.

5. Bank Issues Papers and Decision Memoranda

For CP to obtain the feedback it needs to remain au courant with Bank thinking and the implicit criticism it needs to be able to evaluate its own work, it should routinely receive from the Bank issues papers and decision memoranda concerning agricultural projects, whether these have been prepared by CP or not. Within the CP, these should be screened by the appropriate subsector Senior Advisor(s) for their overall relevance to CP preparation approaches.

CP PREPARATION PRODUCTIVITY ^{1/}

* BETWEEN CY's 1973 AND 1974, AVERAGE CP INPUT PER PREPARATION COMPLETED DROPPED 37%

Country Participation:	Minimal			Substantial			All Projects		
	1973	1974	Change	1973	1974	Change	1973	1974	Change
Completed projects	15	14	- 6.7%	16	15	- 6.3%	31	29	- 6.5%
Average missions/project	1.7	1.9	+11.8	2.3	2.1	- 9.5	2.03	1.97	- 3.0
Average CP man-days/project	393	255	-35.1	260	152	-41.5	324	202	-37.5

* SUBSTANTIAL GOVERNMENT PARTICIPATION INCREASES CP MISSIONS REQUIRED PER PREPARATION BY 0.4 -- 22%

Missions per Project	Country Participation:	Minimal		Substantial		All	
		Projects	%	Projects	%	Projects	%
1		10	34%	9	29%	19	32%
2		15	52	14	45	29	48
3		4	14	3	10	7	12
4		-	-	4	13	4	6
5 or more		-	-	1	3	1	2
Total		29	100%	31	100%	60	100%
*** Average:		1.8		2.2		2.0	

* ... BUT DECREASES CP INPUT PER PROJECT BY 118 MAN-DAYS -- 36%

Man-Days per Project						
0 - 99	5	17%	8	26%	13	22%
100 - 199	10	34	13	42	23	38
200 - 299	2	7	6	19	8	13
300 - 499	3	10	1	3	4	5
500 - 699	6	21	1	3	7	12
700 or over	3	10	2	7	5	8
Total	29	100%	31	100%	60	100%
*** Average:	326		208		265	

^{1/} Projects on which preparation was completed in CY's 1973 and 1974 (based on retrospective data provided by CP Service Chiefs).

IC-FAO RELATIONSHIPS

I. Assessment

Although interaction between CP and FAO is more intensive and fruitful than is recognized by the Bank or acknowledged by CP, there is no question that the CP is still far from the wide or sympathetic bridge between the Bank and FAO - imparting to each the strengths of the other - that it could be. Part of the problem is attitudinal, part historical and part of it a function of Bank/CP relationships. In the following, we discuss:

- A. The past IC/FAO relationship
- B. Barriers to closer relations
- C. The changing climate

A. Past IC/FAO Relationship

The contacts that have occurred in the past (and are outlined in Section VI and Tables 11 and 12 of the "Basic Reference Data" section at the end of this report) have been modest but significant, although somewhat one-sided -- i.e. mainly for IC's benefit.

1. FAO Contribution. FAO, both in the field and Rome, has often contributed expertise (through briefings, consultations, and research work) to the solution of IC problems and has provided a stimulating and professionally developmental environment for agriculturally-oriented staff. It has pioneered some types of project subsequently of interest to the Bank (Seeds, Disease-free Zones, Food Security and, some would claim, Rural Development) and through its UNDP-funded work (to a limited extent overseen by CP in the case of Bank "special interest" projects) has sometimes laid the groundwork for the preparation of Bank projects.
2. IC Contribution. IC, in turn, has had a gradual impact on the attention paid by FAO to agricultural investment, has helped attract funds into that sector and -- mainly through personal interactions but also through occasional visits to UNDP projects and participation in selected working groups -- has

made some contribution to FAO's growing awareness of investment needs and opportunities, as well as its project preparation methodology. IC has also been a valued (though difficult to access) source for FAO of up-to-date country information.

B. Barriers to Closer Relations

Despite these examples of interaction, essentially the "Rome connection", while useful to the IC and very valuable on a personal basis to IC staff and some FAO staff has -- institutionally speaking -- been uneasy, somewhat inhibited and almost never systematically pursued. One reason is the Program's history -- characterized by CP determination from the outset to be "outside" FAO. Another reason is the Bank's traditional reluctance to see CP staff occupied at all on FAO business. There are additional reasons.

1. General Attitudes. In CP eyes, although FAO is a vast source of in-depth agricultural expertise it is limited in its development (and especially investment) impact by a fundamentally academic orientation, a complex bureaucracy, and the absence of an action-oriented focus. FAO, in turn sees CP as "the Bank", respects its competence and action-orientation, but resents its air of superiority and what it sees as a "one way street" of cooperation.
 - (a) The FAO Viewpoint. While often responsive to CP requests for assistance and grateful for the country exposure and action-orientation that CP mission work can give to individual staff members, FAO units tend to resent CP's:
 - Failure to reciprocate, even for informal assistance rendered. (They complain that CP comes to them for briefing but never returns after the mission to debrief; that when they want to borrow CP staff, Bank-related duties are always claimed to make this impossible.)
 - Secretiveness, particularly over releasing documents
 - Ignorance of the existence of much of FAO's country knowledge and staff skill

- Hiring away of many of FAO's best staff
- Isolated, superior air
- Use of FAO members as "consultants", not partners, on missions
- Frequent failure to acknowledge FAO contributions
- High grade levels
- Relative freedom from the stringent budget restraints (especially on travel) that affect the rest of FAO.

(b) The IC Viewpoint. The historically-based impulse to refrain from involvement in FAO work has reflected -- as well as a possessive attitude by the Bank -- IC fears that:

- Participation in FAO affairs could become a bottomless pit
- Intensified contact could reduce IC's partial immunity from FAO's bureaucratic problems characteristic of a large specialized agency
- The need to assure continuity in IC contributions to FAO efforts could add an additional constraint to already severe scheduling problems
- IC staff, when on loan, would be less productive in promoting investment than when in IC itself.

2. Formal Exchanges. The direct contact that comes from staff loans or exchanges is one of the best means of increasing cross-fertilization and improving relationships, but the purchase by CP of FAO staff time for CP missions (roughly 7 man-years/year) is likely to be increasingly difficult to arrange in the future. There are several reasons:

- (a) FAO Work Programmes. FAO divisions have their own work programmes to complete and, in many cases cannot use the CP-provided money effectively for this purpose
- (b) CP Barred. CP at present feels barred from offering its own staff time to an FAO division as a quid pro quo for a loan of that division's staff
- (c) Credibility at Budget Time. If an FAO division can lend staff to CP and still implement its work programme, there is an implication that it was either under-programmed or over-staffed
- (d) Other Demands. Divisions are being called on increasingly to meet demands for non-budgeted staff assistance from other sources (IC, Country Programming, Food Security, CGFPI, etc.) — often for shorter assignments than those sought by CP
- (e) Confiscation. This year, money paid by CP for FAO staff borrowed was confiscated from the lending departments by FAO's financial department during a budget squeeze.

C. The Changing Climate

Under present ground-rules and the psychology that has prevailed in the past, the level of FAO manpower released for CP work would be unlikely to rise and could even decline. This would be harmful to FAO, the Bank, the IC and member countries. But there is evidence that the underlying psychology is changing and there is little reason to believe that the ground-rules cannot also be changed.

1. FAO Climate. FAO, in response to the greater sense of urgency in the world about food problems (exemplified by the World Food Conference and the subsequent establishment of the World Food Council, CGFPI and the nascent IFAD) seems to be searching for means of developing a more action-oriented programme. This will, it recognises, involve intensifying efforts to increase the immediacy and breadth of impact of its Regular Programme activities. It also frequently will involve the conscious and deliberate infusion of a more substantial investment orientation into some of its activities.

2. Bank Climate. The Bank, while immediately concerned to assist with the generation of projects it can finance, has also clearly and unequivocally declared its wider interest in spurring the promotion of agricultural and rural development in the developing world.
3. Mutual Interest. It is therefore increasingly in the interest of both institutions to make the Investment Center a wider and more effective bridge between them. Failure to succeed in this task could ultimately weaken the impact of both institutions on the urgent world problems they are seeking in common to address.

II. RECOMMENDATIONS

For the CP's long-term maximum utility to the Bank, FAO and their member countries, it is imperative to vitalize the CP/FAO "Rome connection" beyond its present significant but modest scale. The Bank should, through the CP, be able to draw selectively on the full range of FAO's resources. FAO, with the help of the IC, should be enabled to heighten its own investment know-how and impact. We therefore recommend that:

- A. The Bank actively encourage selective exchanges of CP and FAO staff time
- B. IC designate operational staff as "Senior Specialists" one of whose duties would be liaison with FAO's Divisions who, in turn, would establish contact points for IC matters
- C. IC take positive actions to improve its communications with FAO
- D. IC initiate establishment of additional investment-targeted "Joint Groups" on the model of the IC/Fisheries Group
- E. The name "FAO-WB Cooperative Program" be changed.

(It is possible also that consideration should be given to elevating IC's status within FAO to reflect better the growing importance and pervasiveness of its concerns and the scope of its external relationships as well as to facilitate the intensified internal interactions we foresee. In addition, such a change would alleviate present flatness in the I.C. grade structure and allow service chiefs a higher rank than their subordinates. We have not, however, explored this question and have no recommendation other than that the question be considered.)

A. Encourage Staff Interchange

Staff interchange, both formal and informal, is the most effective way of bringing FAO's technical expertise to bear on the CP investment program, assisting FAO divisions to realize the full investment potential of their own work, and building stronger CP/FAO relationships. To the extent that CP staff assigned to work with FAO divisions will be concerned principally with investment-related activities and FAO staff assigned to CP will be exclusively involved in Bank-related work, exchange arrangements will increase the aggregate FAO time applied to promoting investment.

1. Informal Interchange. CP (with the Bank's full support) should be more willing to reciprocate for short-term informal services currently rendered by technical divisions but seldom accounted for. (These CP services should be distinguishable in the time recording system and subject to a mutually agreed ceiling.) Where FAO staff contributes informally or formally to project preparation, CP should acknowledge it in the report.
2. Formal Interchange. Within pre-agreed ceilings, CP management should be free to offer staff for FAO and IC Service assignments in return for equivalent amounts of staff time furnished to CP. As a prerequisite, the Bank should agree to contract for man-years rather than people in the CP. The accounting required for such an arrangement demands an effective time recording system. This would not be prohibitively difficult, as time accounting is, after all, the basis of billing in many types of legal, public accounting and consulting work (See Annex 5).
3. Reimbursement Option. FAO staff time assigned to CP would be reimbursable either in money or equivalent staff time, at the discretion of the directors concerned who would meet annually to determine the likely magnitude of the exchange. Divisions releasing staff for CP work would have first claim on CP staff time, but CP staff assignments would not necessarily be confined to these divisions. CP staff time also could be purchased rather than bartered for.

4. CP Preference. Because exposure of FAO staff to CP staff and CP's investment-related work can often contribute a better informed investment orientation and ultimately a sharper investment focus to many FAO activities, CP should seek to use FAO staff rather than consultants whenever feasible. (If the time exchange programme were to involve 7 man years per year, in average tranches of one month per assignment for CP staff and 3 months for FAO staff, 112 exchanges would be made per year with a direct potential impact on nearly 10% of FAO HQ staff per year and a probable indirect impact on many more.)
5. Staffing Implication and Impact. CP should increase its regular staff at the expense of its consultant budget to accommodate the demand for its staff services by FAO. Experience during the year following the initiation of the scheme would indicate the likely level of such demand. There would be no additional cost to CP. To the extent CP time was purchased, the consultant budget would be replenished; to the extent it was traded, CP's available direct-hire staff time would be replenished.
6. CP Benefit. In addition to benefits resulting from an increased (or at least not decreased) FAO contribution to CP work, the larger number of CP direct-hire staff that the arrangement would permit might facilitate further sub-sector depth. Also, to the extent that the CP staff time used for exchanges would otherwise be downtime (e.g. due to scheduling hiatuses or practical limitations on staff travel time), such exchange arrangements will permit its conversion to productive operational time. This will increase CP's efficiency.
7. Directive. It is possible that arrangements of this type would be facilitated by an umbrella directive from FAO management to the effect that investment orientation is an implicit purpose of most FAO work programmes and not exclusive to the IC.
8. Implementation Problems. The proposed staff time exchange option will require close and careful CP management to assure that it is pursued with deliberation and subjected to reasonable safeguards such as:

- (a) Upper Limit. Periodically, in consultation with the Bank, an upper limit should be established on the level of staff time to be exchanged (as should an overall CP limit be agreed for the informal -- i.e. non-traded, non-reimbursed -- overhead interaction activities). Basic charging and accounting principles will need to be agreed along lines outlined in Annex 5.
- (b) CP Flexibility. To enable CP effectively to contend with the scheduling aspects, more freedom from explicit Bank intervention in scheduling decisions will be required. After reaching agreement with the Bank on its role in the preparation of a project and on the manpower required, CP should have wide discretion on the timing and composition of individual missions.
- (c) Responsibility. Use on loan of FAO staff will not free CP management from any of its present responsibilities to assure delivery of quality work on time. It will need to be highly selective in borrowing and lending staff to achieve maximum benefits both for CP and the rest of FAO. CP management should normally require that staff loaned to FAO be assigned to investment related work.

B. Establish Technical Liaison

IC should designate Senior Specialists (and alternates) within each of its technical disciplines and make them responsible for liaison with counterpart technical divisions in FAO on technical (but not operational) issues. FAO division directors should designate an officer, preferably in their own office, as the contact point (though not exclusive channel) for CP matters. The Senior Specialists should be invited to attend technical meetings arranged by their counterpart division, and the liaison staff from FAO should be invited to relevant IC meetings, including debriefings. Also on the advice of liaison staff and by agreement between the directors of IC and the FAO division concerned, IC should be able to employ on short-term secondment proponents of innovative proposals with investment potential to work on guidelines, develop seminars, prepare papers, etc. (The role of Senior Specialists is discussed further in Annex 4.)

C. Take Positive Action to Improve IC/FAO Communications

The vitalized IC/FAO "Rome connection" that we consider necessary to full effectiveness requires, in addition to the changes recommended above, steady inculcation (with Bank support and due regard for the needs of the work program) of an outward-looking IC attitude.

1. Routine Interactions. Routinely, selective cross-attendance by liaison people and managers, for example at staff meetings, should occur; announcements of debriefings should be made and legitimately interested FAO staff encouraged to attend, and the Senior Specialists should hold occasional seminars not limited to IC staff.
2. Information Center. The Documents Unit -- which now plays a passive reference-oriented role -- should be renamed the "Information Center" and given the responsibility actively to take whatever initiatives are needed to assure that IC and FAO people derive full and timely benefit from IC, Bank and FAO documents. Beyond the reference function, this will entail following the mission schedules of IC people and systematically providing to mission members at least two weeks in advance of departure, such documents as the most recent relevant Bank sector and appraisal reports, any FAO studies or reports that could be pertinent, and relevant IC material. Also, it could perform a brief search of the FAO staff registers to determine (and provide) the names of people at Headquarters and in the field who are likely to have relevant specific knowledge. In addition, the Information Center should:
 - Take the initiative actively to acquire the material and knowledge necessary for the above-described functions.
 - Prepare and circulate to IC, FAO and Bank agricultural staff a quarterly IC Newsletter.
 - Circulate in FAO: IC mission schedules, lists of newly acquired documents, debriefing agendas and the like.*

* New ground-rules establishing confidentiality of Bank and FAO documents, and the extent to which they might be circulated within each agency should be developed at the instigation of the Head of the proposed Information Center.

- The Center would need professional direction and probably should be placed under the Editor/Information Officer (See Annex 4).

D. Establish Joint Groups/Task Forces

1. Purposes. IC should initiate the establishment of additional "Joint Groups" on the model of the IC/Fisheries Group, with the purposes of:
 - Identifying sub-sector and project investment needs and opportunities
 - Keeping IC aware of new and relevant technology
 - Briefing divisions on lending criteria and modus operandi of financial institutions
 - Adding investment orientation to divisional work programmes.
2. For Each Joint Group, the involved division directors should specify aims, identify priority topics, determine composition, level of formality, reporting system and life span. (In our opinion, the Groups should operate under technical division leadership, have no more than 5 members, and designate sub-groups for specific tasks.) For topics for which large Interdivisional Working Groups already exist in FAO but which require particularly concentrated attention -- such as Trypanosomiasis, River Blindness, Pesticides, Arid Lands, Fertilisers, Adaptive Research, Food Security -- the "Joint Group" might be constituted as an Investment Sub-Committee.
3. Costs of CP participation in such groups should -- within an agreed ceiling for "Direct FAO Support" -- be considered a legitimate charge to CP (See Annex 5). This will be justified by enhancement of CP's staff expertise, an increased flow of investment projects, informal quid pro quo and ultimately an enhanced FAO investment impact.

E. Change Titles

The name of the FAO/World Bank Cooperative Program creates confusion. FAO and developing country people regard it as "the Bank". Some even think it is concerned with cooperatives. We believe it would be

useful to rename it the "FAO Investment Center". It would contain four "Services" -- Service #1, Service #2 and Service #3 (which would handle WB project work) and Service #4 (which would carry out work for other client financiers).

IC LOCATION, STRUCTURE AND MANAGEMENT

I. ASSESSMENT

A. Location and Structure

The present location and structure of the Investment Center, including the FAO/WB Cooperative Programme, are fundamentally what they should be, although the growing complexities of the management task suggest the need for greater management capacity. We present in turn our assessment of:

1. The location issue
2. The present structure

1. The Location Issue

- (a) General Criteria. As a general matter, the following criteria are relevant to the question of location:
 - Access to FAO thinking, skills, data resources
 - Access to Bank thinking, skills, data resources
 - Responsiveness to or independence from Bank, FAO or country pressures; impact on reporting relationships
 - Country knowledge, accessibility and impact
 - Value of IC's critical mass
 - Potential for favourable IC impact on FAO or the Bank
 - Costs (travel, administration, personal services, etc.).
- (b) Rome Location. On balance, after examining the likely alternatives in the light of these criteria, we have concluded that Rome is the most suitable location for the CP. This conclusion is based on three principal considerations:

- (i) Access to FAO. CP now draws extensively and beneficially on the resources of FAO (see Basic Reference Data Table 11) and will do so to an even greater extent in the future if our recommendations (in Annex 3) are accepted.
- (ii) Utility to FAO. CP has very great potential utility within FAO -- utility which can be enhanced we believe, by measures described in Annex 3. This utility would be largely lost were the CP not in Rome -- to the detriment of the Bank's as well as FAO's member countries and agricultural development objectives.
- (iii) Bank Relations. We believe that the problems of Bank/CP relationships that a Washington location might alleviate can be greatly reduced by the measures proposed in Annex 5 without incurring the costs of moving the CP.
- (c) Outposting. In considering whether to outpost staff, the added complications of back-stopping and supervision as well as the danger of losing objectivity and impact within the country have to be taken into account. Nevertheless, in the context of a Rome-based CP, we can recognize the merits of a very limited and selective outposting of CP staff directly to countries (but -- to keep the reporting relationship simple -- not to FAO field posts). Where the reporting relationships were to be directly to a Bank field post (or Bank HQ), we believe the realities of the situation should be recognized by secondment of the CP staff member to the Bank with the Bank paying 100% of the costs.
- (d) Regional Banks. We have not examined the location issue in the context of IDB, AsDB and AfDB staff who are outposted from the IC. Our conclusions with respect to the World Bank are not necessarily relevant to the other institutions where the scale is entirely different and many of the qualitative aspects may be too.
- (e) Attachment. In Attachment 1, we summarize the advantages and disadvantages of the various major locational alternatives.

2. The Present Structure

IC, despite its fundamentally sound structure, presently suffers from six significant problems, solutions to which might be facilitated by at least modest structural change.

(a) Weaknesses/Needs. Today's IC, we believe, needs:

- (i) Stronger Top Management Capacity. The ratio of 5 substantive supervisors -- Director, Deputy, 2 Service Chiefs, Coordinator, -- to roughly 80 professional staff is light, especially at the top. (There is provision for Deputy Service Chiefs, but the positions have frequently been left vacant in order to avoid diversion of two mission leaders -- key CP operating resources.) In the Bank's projects departments of equivalent size it would not be unusual to have 9 line supervisors, not counting Deputy Division Chiefs (i.e. Director, 3 Assistant Directors, 5 Division Chiefs). Of course, CP functions are more homogeneous than those of a Bank Regional projects department and for that reason CP is probably easier to manage, but -- with the Director's growing activities regarding FAO's relations with CGFPI, the already apparent rapid growth pattern of the IC Service and the accelerating evolution of Bank and FAO policies regarding agricultural investment -- the IC's overall management task is becoming too heavy for 2 top managers (with 2 advisers) and 3 middle managers to handle.
- (ii) Smaller CP Services. Despite the homogeneous nature of CP work and the extent to which mission leaders function as an intermediate layer of management, the present 2 CP services are too large for fully effective management and control by single service chiefs. The problem is particularly difficult in Service II which presently does work in four Bank regions (EAF, WAF, S. Asia, E. Asia and Pacific).
- (iii) Better Interaction with FAO. The quality and quantity of CP interactions with FAO have improved in recent years but still have much room for further improvement.

- (iv) More Flexibility in Coordination and the Use of Staff. It has been difficult for the IC as a whole to make the most appropriate and efficient use of staff "locked" into specific services. In particular, this has limited the IC Service's capacity to benefit from or coordinate with the two CP services. There have sometimes, for example, been overlaps or embarrassing situations of non-coordination within countries (e.g. parallel but separate work for IDB and WB on what is essentially the same project).
 - (v) Better Administrative Support. Weaknesses in the administrative area have exacerbated managers' problems.
 - (vi) More Systematic Professional Development. This problem is discussed in Section B.2. below.
- (b) Major Change Unnecessary. We do not conclude from these weaknesses that major structural change is required. Procedural and attitudinal changes (which we discuss subsequently) can help offset the weaknesses and some minor structural adjustments can provide further relief. Moreover, it is important to recognize that any other fundamentally different structure would have weaknesses too. For example:
- (i) Technically-Based Structure with Area Desks. A technically-based structure with area desks would simplify staff development and FAO relations and might permit more subsector specialization -- but it would greatly complicate the infusion of a multi-disciplinary approach to the work, force scheduling decisions to the top level (which already is over-loaded), and (because of the Bank's opposite structure and the desk officers' individual lack of power to resolve conflicting priorities) reduce responsiveness to the Bank.
 - (ii) Decentralized Structure -- Technical Core in Rome; Remainder in Field. A decentralized structure (with a supervisory and technical core in Rome and remaining staff in the field) would improve country knowledge, simplify

bus-stopping and reduce travel costs -- but it would compound alarmingly the already significant management relationship problems (given the potential roles of FAO headquarters, Bank headquarters, IC headquarters, the FAO country or regional office, UNDP and the Bank resident mission, if any), significantly reduce the CP's utility to FAO, risk a loss of professional objectivity and access to senior-level officials by field staff, and increase costs.

(iii) "Integrated IC". An "integrated" IC (with geographic services serving all client financiers and charging them on a man-years-of-effort basis) could:

- Permit some missions to serve the needs of more than one donor, with resulting efficiencies
- Increase the strength of IC country contacts and IC's capacity to give impartial investment advice
- Bring a familiarity with Bank standards to the work of non-Bank financiers
- Give non-Bank financiers a wider spread of IC skills on which to draw, and
- Reduce IC's present rather dominant linkage to the Bank;

But it could also:

- Complicate the task of resolving conflicting scheduling priorities without alienating the financing agencies
- Reduce IC's capacity to adapt flexibly to inevitable short-notice changes in financier priorities
- Diminish the confidence of each lending agency, particularly the smaller ones, that it would receive the desired attention and priority from IC -- perhaps with a resulting reduction in IC usage

- Reduce IC staff members' knowledge of individual lender requirements and policies, which could make subsequent appraisal more difficult and possibly impair the chances of rapid project financing
- Arouse Bank fears that a Gresham's Law effect of projects being directed to the least demanding donor could over the long term reduce project quality, and
- Require protracted negotiations, given the sensitivities involved, the number of organizations and the complexities of systems that would have to be agreed for charging, reimbursement and the resolution of conflicting priorities.

Because of this alternative's complexity, we have listed in Attachment 2 further advantages and disadvantages from the viewpoints of those who would be affected. Even if the integration alternative were to be preferred, the time delay involved in negotiating it would require that the structural problems identified in this assessment be faced and resolved on an interim basis.

(iv) Separate Services Parallel to Bank Regions. Creation of five CP services corresponding to the Bank's Regions (because of the low scale of activity, one would have to serve both Africa Regions) would enhance country knowledge, diminish the span of control of service chiefs and permit one-to-one Bank relationships at the supervisory level. It might also increase the collaboration between Bank and CP superiors on questions of country sector policy in agriculture. However, there would be numerous serious disadvantages:

- "Stable" Status. The one-to-one relationship in 4 of the 5 services would almost surely result in the Bank Regions viewing each CP service as a mere "stable" of extra manpower -- one which they would seek to manage in detail from Washington. This would produce disadvantages in:

- . Efficiency, given the problems of "short-string" management at a distance of 4,000 miles
 - . The loss of benefits to member countries from CP/FAO interaction -- which requires less direct Bank control
 - . The loss that would result from a gradual exclusion of CP top management from the supervision of operations
 - . The long-term loss that would result from diluting the IC managers' leadership role in attracting, holding, motivating and professionally developing the top quality staff that make CP valuable.
- Reduced Scheduling Flexibility. The benefits in responsiveness of the one-to-one relationship would be offset by the reduced scheduling flexibility resulting from smaller units and the heavy dependence of the CP service chiefs on arrangements to borrow staff from each other (as no one service would be self-sufficient).
- Reduced Quality. Each service could support only a minimal degree of subsector specialization -- which is particularly important in preparation work. Moreover, those in a service who were specialized by subsector would lack daily opportunities for professional dialogue with service colleagues having the same subsector specialization.
- Diversion Danger. The service chiefs would be less able to resist Bank managers' tendencies to divert their resources into high priority appraisal work, supervision and inevitable trouble shooting -- which is not the most efficient way to use CP staff.
- Narrowed Experience. CP people would lose the benefits of constant multi-Regional exposure (benefits already lost to Bank divisions).

- Diminished Separateness. The advantages inherent in having preparation assistance rendered by an entity other than the Bank are reduced to the extent that CP's institutional separateness is reduced.
 - Increased Overhead. A greater proportion of CP's most senior staff would be occupied with overhead and non-operational functions.
- (v) Four CP Services. Based on present and projected workload, the four services would have to serve:

South Asia
EMENA
LAC
East Asia, Eastern Africa and Western Africa

Three of the four services would have all the advantages and disadvantages of a one-to-one relationship (as discussed above). In addition, the fourth service's travel patterns would be anomalous. With four services, given present staffing, there would be 18 instances of one or less subsector specialist per service. (With three services, there would be only 11 such instances.)

The span-of-control problem for CP service chiefs is not comparable to the problem for Bank division chiefs because -- while Bank division chiefs are responsible for project administration and sector work as well as project definition, preparation and appraisal -- the CP service chiefs are responsible only for pre-appraisal work and supervise primarily the mission leaders (who at any given time constitute perhaps a third of their subordinates and who absorb some of the leadership and development tasks with respect to more junior staff).

B. IC Management

The IC is no longer the small intimate group it used to be in which primarily personal relationships could adequately serve the purposes of leadership, administration and management. Without in any way sacrificing the personal relationships that still exist -- for even from a purely clinical management

viewpoint they are of inestimable utility -- there is need for an overlay of more formalized and systematized methods of internal IC management and for an increase in IC's managerial capacity. There are at least three areas where it is clear that IC's present managerial capacities have been stretched thin:

1. Work programming, scheduling and control
2. Professional Development
3. Administrative support

1. Work Programming, Scheduling and Control. As long as CP programming and scheduling remain largely driven by Bank needs and the Bank is uneven in the quality of its own pre-appraisal pipeline planning and therefore tends to manage CP schedules rather than results, there will be limits to the improvements possible in CP's own programming and scheduling. Nevertheless, the absence of explicit and published CP project planning tables is hard to justify. CP's own reliance on travel schedules as the primary planning tool is, in fact, an inducement to Bank reliance on such schedules as a primary control tool. Similarly, from a budgetary standpoint, CP's failure to submit reliable time reporting data has left the Bank no alternative but to seek to control IC's delivery of the prescribed number of designated "bodies" (full time) rather than of a specified quantity of man-years.
2. Professional Development. Long-term quality enhancement through professional development is more effective, efficient and instructive than exclusive reliance on quality control through report review. Moreover as bus-stopping and the role of local preparation teams increases, the possibilities for quality enhancement and staff training through report review will decline. Therefore, a premium will exist (even more than today) on measures -- such as formal in-house training, professional cross-fertilization, development of guidelines and standards, feed-back, etc. -- that increase staff competence. The present structure -- with little front office capacity for policy development and with two (harassed) service chiefs each supervising roughly 30 people while handling Bank relationship problems and administrative matters -- is not well suited to giving professional development activities the attention they deserve. Yet an active multi-faceted program for professional development can

contribute importantly to the IC's esprit de corps and consequent capacity to attract and retain superior staff. It can also help maintain the atmosphere of intellectual vitality that is essential to IC's continued creative performance of project preappraisal tasks.

3. Administrative Support. Severe weakness in the administrative support area place unnecessary burdens on IC supervisors and impair the IC's efficiency. There are at least 6 broad problem areas which we summarize below. (They are addressed more fully in a Task Force working paper made available separately to the IC management.)
 - (a) Confidence. As it presently functions, the Program Coordination and Administration Office is not -- as it should be -- used in every way possible to remove administrative burdens from substantive supervisors and staff.
 - (b) Consultant Processing. Consultant processing is a bottleneck area in the IC, and its procedures are not geared to the tight deadlines that are hard to avoid.
 - (c) Work Distribution. The organization and distribution of work within the administrative unit is inefficient -- e.g. consultant work now involves 3 people in different sub-units. Financial reporting to the Bank and FAO -- while based on the same data -- is done by separate people reporting to separate supervisors.
 - (d) Documents Unit. The Documents Unit has had a passive posture unsuited to the needs of IC and FAO (See Annex 3).
 - (e) Secretarial Support. IC management decided (March 3, 1975) to introduce automatic typing and modified arrangements for secretarial support -- which we consider sensible -- but this decision had not begun to be implemented by mid-May.
 - (f) Equipment. Electronic desk calculators are not as widely available as could be justified and travel calculators are in short supply.

II. RECOMMENDATIONS

The significant coordination and relationship problems that exist today, can, we believe, be largely resolved through the procedural improvements proposed in Annex 2 and the integrated planning and control systems proposed in Annex 5. For that reason and for the reasons stated in the foregoing assessment, we recommend no radical change in IC's location or fundamental structure. We do, however, recommend some structural adjustments to strengthen IC's management capacities and its internal technical leadership, professional development and administrative support.

Our principal recommendations are to:

- A. Strengthen the IC Front Office
- B. Create a third CP service
- C. Assure continuing enhancement of IC staff capabilities
- D. Appoint Operations Officers in each CP service
- E. Strengthen the administrative support unit

Table 1 is an organization chart illustrating the structure as it should look after these adjustments. Attachment 3 states the duties of the key positions that would exist under the proposed structure. We briefly discuss our proposed adjustments below.

A. Strengthen IC Front Office

1. Complexity of Management Tasks. In future years the management task of IC is going to be rendered significantly more complicated by:
 - The sharp growth of World Bank lending
 - The likely rapid growth of IC non-WB activities due to increased demands from OPEC financing sources, IDB and the Bankers' Programme
 - The presently unknown impact of the International Fund for Agricultural Development (which could be of sufficient magnitude to warrant re-examination of our structural recommendations)
 - Increased bus-stopping
 - Time exchange

- UNDP infusion
- The more extroverted role towards FAO
- The rapid evolution of Bank policies in agriculture
- Work arising from CGFPI.

2. Overall Recommendation. To strengthen IC's top management capacity to meet the challenge these factors will pose, we recommend creation of an additional deputy. The Director would continue to be occupied heavily with externally-oriented functions including special priority assignments for FAO's Director General (e.g. CGFPI Liaison). A Deputy Director for CP Operations (DD/CPO) would oversee Bank-related work; a Deputy Director for Policy, Professional Development and Liaison (DD/PPL) would perform internal "infrastructural" functions. (IC's Director has proposed -- and we see no problem with -- also appointing a Deputy for IC's non-Bank-related activities because of the importance, variety and volume of external relationships these are expected to entail in the coming year.)
3. Deputy Director, CPO. The Deputy Director for CP Operations would direct the Bank-related work, including particularly the development and negotiation of CP's work program and budget, the review of quality on a selective basis, and the coordination of inter-service staff sharing and CP/FAO time exchange.
4. Deputy Director, PPL. The Deputy Director, PPL -- a "staff" executive -- would be responsible for planning, coordinating and directing the non-operational activities of the IC -- e.g. development of guidelines and standards, conduct of "off-line" professional development, and coordination of IC's contributions to the policy formulation of client organizations. He would chair an internal "IC Policy Advisory Committee" and would oversee the non-operational work of the Senior Specialists (see paragraph C.2, below). He would supervise the Senior Adviser, Senior Agricultural Adviser and the Information Center. Also, he would assist in direct (i.e. non-CP-related) Bank/FAO coordination by spending a significant portion of his time at the Bank "absorbing" policy trends and spotting opportunities

for useful Bank/FAO interaction and -- when in Rome -- performing a similar and complementary liaison function in FAO. Lastly, he would serve as (or oversee) the IC representative on may of the FAO inter-divisional working groups and oversee IC's "FAO support" activities.

5. Interim Alternative. In the near term, the IC Director expects to be able personally to assume the responsibilities of the proposed Deputy Director for CP Operations and personally to direct implementation of most of the recommendations of this study. He intends, for this purpose, to diminish his externally-oriented duties. If the Director's personal external responsibilities can be held to a minimum (perhaps less than 20% of his time) and if the non-CP third Deputy post he has proposed is created and filled, performance by the Director of the functions we have envisaged for the DD/CPO can be a viable alternative to our recommendation.

B. Create a Third CP Service

1. Trade-Offs. Creation of a third CP service will not remedy all present problems and will, in fact, have some cost in scheduling flexibility, subsector specialization and an increased need for inter-service sharing, but we believe it will provide the best balance between:
 - Fully adequate supervision and the diversion of CP's most experienced staff to overhead tasks
 - Complexity of serving several Bank divisions and independence from detailed intervention by WB Regional managers
 - Subsector specialization and the problems of largeness
 - Country specialization and the need for variety of professional exposure
 - Effective quality control and maximum scheduling flexibility (with minimum need for inter-service borrowing).

With three services, their size in the next several years would probably range between 20 and 30 professionals. This is a bit too large from the span-of-control and

professional development viewpoint, but with four smaller services the service chiefs would be less in control than is desirable -- because they would have to borrow staff more frequently from each other. As a result, they would be less responsive.

2. Regional Allocation. The three services would serve as follows:

- | | | |
|-------------|---|---|
| Service I | - | Latin America, Caribbean;
West Africa |
| Service II | - | Europe, Middle East, North
Africa; East Africa |
| Service III | - | South Asia and East Asia |

Based on past patterns of usage, this regional allocation would result in the best balance of workload (5 year average of mission days: Service I, 26%; Service II, 34%; and Service III, 39%). To the extent it can be projected, the allocation is likely to maintain a good balance in the foreseeable future, as it combines South Asia (the fastest growing source of CP work) with East Asia (the slowest growing). The proposed regional allocation would in addition:

- Permit the best intra-service travel efficiencies
- Permit Washington visits by staff of two of the three services at minimal cost and travel time
- Enable Service I to capitalize on the facts that many CP staff speak both Spanish and French and that travel between Western Africa and Latin America is comparatively convenient.

3. Rejected Alternative. We considered the alternative of two Services each with two subordinate managers, but rejected it because of (a) the need it would create for six rather than three service managers, (b) the additional layering it would involve in a context

already suffering from a flat senior grade structure,* and (c) the further loss of critical mass that would result if each service's staff were divided between its two subordinate managers.

C. Assure the Continuing Enhancement of IC Staff Capabilities

Because the quality of preparation assistance has a key impact on the efficiency of appraisal work and may also improve the quality of project implementation, measures to enhance the capabilities of CP staff will yield high returns for the Bank, FAO and member countries. Such measures should be vigorously and systematically pursued. We have recommended increasing the number of CP service chiefs, which will give them more time to discharge their professional development responsibilities, and creating a Deputy Director (PPL) to coordinate professional development activities which are IC-wide. We also recommend that:

1. CP Set (and Then Meet) Goals for Staff Participation in Bank-led Supervision and Appraisal Missions. Supervision experience (preferably on a project one has helped prepare) can heighten one's awareness of the problems projects encounter during implementation and thereby increase the operational realism brought to subsequent preparation work. Participation in appraisal work (preferably on a project one was not involved in preparing) can sharpen one's appreciation of the Bank's approach, policies and requisites for financing and thereby improve substantive communication and make subsequent preparation work more responsive to Bank needs. Therefore, we recommend that specific targets be set to achieve systematically such CP staff exposure and to assure that the desired exposure does not -- through overuse -- become a pretext for the Bank to direct CP energies away from the priority CP preappraisal tasks. We would suggest a target of perhaps one supervision mission every second year and one appraisal mission

* The flatness of the grade structure also is perpetuated -- in the FAO context -- by CP's realization that if it fills a vacant D-1 position with a person not eligible for the D-1 rank it will forfeit the D-1 position and risk losing the appointee when he eventually is qualified for the rank. (We believe CP should be able to promote qualified staff to non-supervisory positions up to the D-1 level on the basis of professional growth rather than having to "reclassify" the position first.)

every third year. Staff with more than 6 years' experience could be exempted from both types of mission as they are not at that point in a position to derive maximum benefit from the experience. (It is significant that 87% of CP staff stated on the questionnaire that it would be valuable for them occasionally to participate in a Bank-led supervision mission and 74% had that opinion with respect to appraisal missions. See Basic Reference Data, Table 11.)

2. IC Designate Senior Specialists to Provide Technical Leadership and Liaison. In each major subsector, the IC should designate "Senior Specialists" to play a lead role -- in their respective disciplines -- in professional development, liaison and policy guidance. Senior Specialist tasks should, we estimate, occupy about 25% of each designee's time. This time cost should be more than compensated by resulting improvements in their own and their colleagues' productivity and work quality. The Senior Specialists would continue to report to their appropriate service chief, but would be under the functional oversight of the Deputy Director, PPL, when performing Senior Specialist duties. These duties would be to:
 - (a) Develop (or coordinate development of) guidelines and standard formats and analyses for work within their respective disciplines
 - (b) Liaise with their counterpart FAO technical divisions and CPS advisers
 - (c) Participate in the proposed new "IC Policy Advisory Committee"
 - (d) Screen technical publications and Bank and FAO documents to identify and circulate material relevant to the work of colleagues
 - (e) Participate in selected inter-divisional working groups
 - (f) Visit missions in the field occasionally in an "elder statesman" capacity to advise on difficult issues within their respective disciplines

- (g) Participate in IC report reviews at the request of service chiefs
 - (h) Chair occasional seminars and selected IC-wide case study sessions
 - (i) Take the lead role in technical orientation of new staff.
3. Assure Feedback. People develop best and most rapidly in a context of candid and constructive criticism. "Feedback" to IC staff about the perceived strengths and weaknesses in their work is therefore essential. It occurs now through daily supervision (including that by mission leaders) and report reviews, but it should be more systematized in at least two respects.
- (a) From the Bank. CP staff routinely should receive for information Bank issues papers and decision memoranda concerning projects they have helped prepare. (Also, of course, as usually happens now, they should routinely receive the appraisal reports.) Beyond this, each CP service chief should set aside time in his semi-annual visit to Washington to receive explicit feedback from Bank mission leaders and division chiefs about the work done during the prior period. This should include specific feedback where Bank decision memoranda or appraisal reports have gone in a direction contrary to CP recommendations. The feedback should then be transmitted personally by the service chief to those affected in the CP.
 - (b) Performance Evaluation System. The absence of a formal employee performance evaluation system in IC deprives staff of the opportunity all staff need at least once a year for summarizing performance strengths and weaknesses and professional development needs. Such an employee performance/-potential evaluation system should be designed and introduced promptly. It need not be elaborate.
4. Other Measures
- (a) Debriefings. Debriefings, as we have recommended in our section on IC's operating processes (Annex 2), should be reinstituted on a routine basis. They

have important development value for staff members (particularly new ones) as well as benefit to the mission members involved.

- (b) Bank Documents. In addition to the documents already mentioned, CP staff should have more ready access to Central Projects Memoranda and the Bank's manuals (copies should be in each service as well as the Information Center). Working papers also should more frequently be made available.
- (c) FAO Technical Meetings. Participation in selected FAO technical meetings for staff development purposes should be encouraged.
- (d) Orientation. More systematic arrangements should be made for the briefing and orientation of new staff (perhaps initially by the Information Center) including, as feasible, enrollment in the recently created World Bank operations course.
- (e) Staff Exchange. The Bank and IC should study incentives to encourage exchanges of staff on secondment.
- (f) Secretarial Guide. A more comprehensive IC Secretarial Guide should be developed. (This is discussed in a task force working paper furnished separately to IC management.)

D. Appoint Operations Officers in Each CP Service

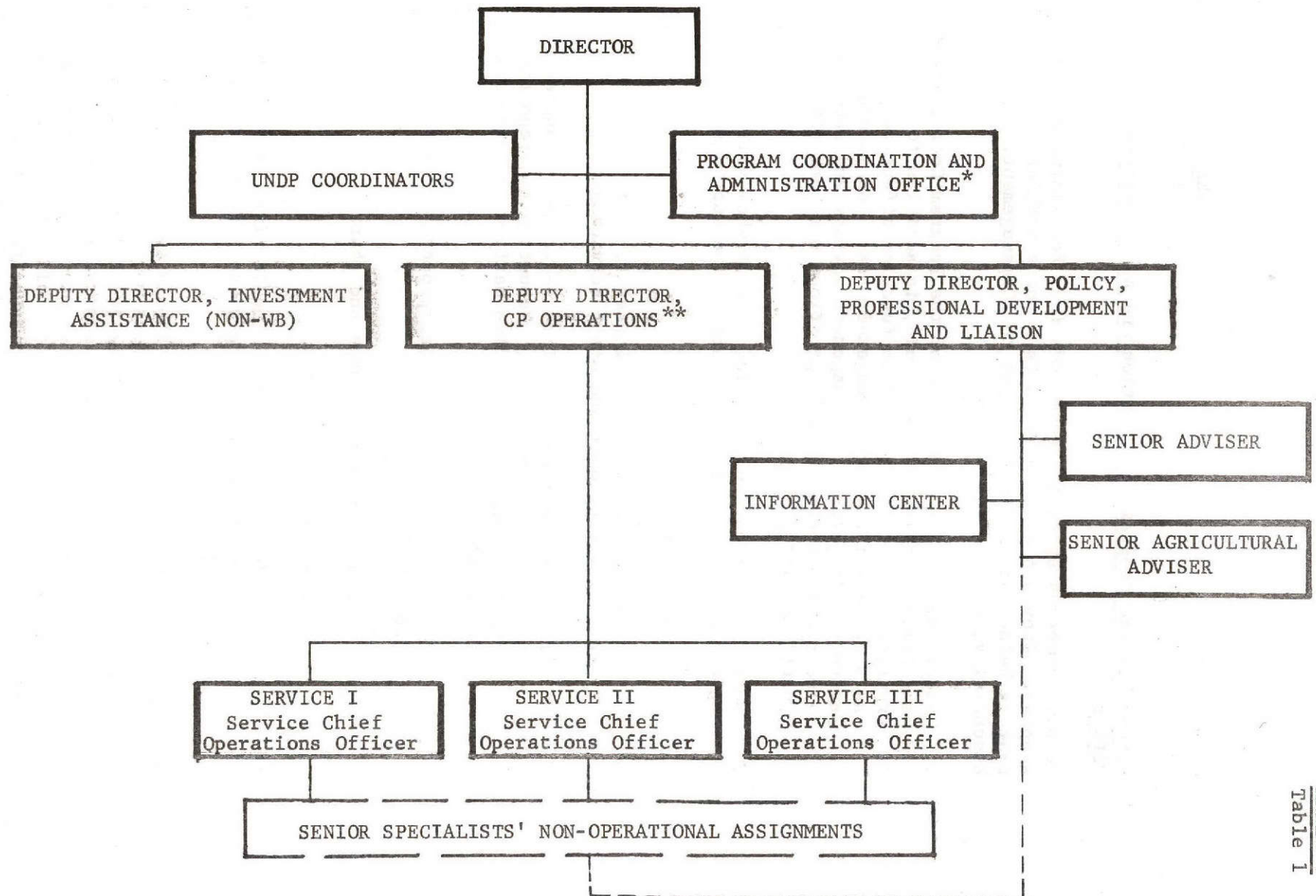
After careful consideration of the CP service chiefs' needs for deputies (the positions for which now exist but remain vacant), we rejected the idea. The scheduling task, however, is difficult and time consuming. The two existing service chiefs estimate that it, combined with administrative chores (personnel management, consultant arrangements, etc.) consumes more than half their time, with the balance left for providing guidance, leadership and quality control. At least half of the non-substantive burdens, they believe (and we agree), could be lifted by a qualified Operations Officer. Further improvement will result when the IC's administrative unit is made more effective. It would be undesirable and unnecessary we think, to divert a senior mission leader -- the critical CP resource -- to perform chores which can be performed by a far more junior person and to retain thereby an unnecessary layer in the line structure.

E. Strengthen the Program Coordination and Administration Office

We have numerous specific recommendations for administrative support. They are detailed in a task force working paper that is being separately furnished to IC management. Essentially, we have recommended:

1. Supervision. The supervisor of the Program Coordination and Administration Office should, in addition to running the office, be able to function effectively as a member of the IC's management team. He should serve the director as a management adviser and should also provide the services' Operations Officers with functional leadership.
2. Work Supervision. Six people, some of whom will have subordinates, should report to the supervisor:
 - His secretary
 - An outposted Personnel Officer to be in charge of all recruitment and staff servicing
 - A Budget and Finance Officer -- to be in charge of all budget, financing, accounting and reporting functions and administrative matters for on-board consultants
 - A person in charge of "word processing" and report production
 - A person in charge of maps and charts
 - A person in charge of files.
3. Secretarial/Clerical Support. The IC Director's March 1975 recommendations concerning secretarial/clerical support should be implemented.
4. Further Study. Further study should be given, with FAO assistance, to the advantages of more flexibility in consultant recruitment policies and to possibilities for improvement in reproduction services and space. It is ultimately highly inefficient to have professional staff share offices. Also, IC should establish a small working group to examine (with Bank input) whether the fullest desirable use is being made of existing computer analytical packages; if not, it should review the budget and IC staff training implications of changing the situation.

PROPOSED ORGANIZATION OF INVESTMENT CENTER



* Subunits: Personnel, Budget and Finance, Registry, Report Production, Maps.

** At least in the near term, the duties of this position will be assumed by the Director.

ADVANTAGES AND DISADVANTAGES OF FIVE LOCATIONAL ALTERNATIVES
FOR THE COOPERATIVE PROGRAMME

1. ROME

Located in Rome, the CP can draw heavily on FAO resources, and have a major impact on FAO programmes and policies. This more than offsets the problems created by distance from Bank thinking and management.

Advantages

- a) Access to technical and data resources of FAO
- b) Opportunity to contribute to investment orientation of FAO's UNDP projects and regular programme, and to quality of projects prepared for other financiers
- c) Freedom to concentrate on project identification and preparation
- d) Enhanced opportunity to act as independent Bank critic and to recognise country viewpoints
- e) Avoidance of internal Bank problems that could flow from having a "preparation department" under CPS aegis.

Disadvantages

- a) Lack of access to Bank thinking, methodology and data
- b) Reduced Bank certainty of timely and efficient delivery of agreed work
- c) Risk of influence by FAO political considerations and dispersion of effort into FAO activities
- d) Inherent difficulty and cost of communication with Bank

2. WASHINGTON

While location of the CP in Washington would satisfy Bank managers' desire for more control, increase CP awareness of Bank policies and reduce communications problems, it would nullify the considerable advantages of the "Rome Connection".

Advantages

- a) Increased awareness of Bank policies
- b) Easier, more effective and less costly CP/WB communications

Disadvantages

- a) Loss of FAO technical and data input
- b) Loss of impact on FAO activities
- c) Higher travel costs (\$5,000/man year) and higher travel time
- d) Danger of diversion to appraisal and supervision

- c) (For Bank) Increased opportunity for management intervention in CP, and greater confidence in performance
- e) Danger of becoming de facto Bank staff "pool", with consequent loss of second opinion in project cycle
- f) Loss of "bridge" between FAO and WB
- g) Loss of many trained employees unwilling to relocate
- h) Loss to FAO of identification with investment related work

3. BANK REGIONAL OFFICES

Outposting of CP staff to Bank regional offices would lead to lower travel costs and improved country associations but these advantages would be more than off-set by loss of FAO input and identity and increased communications problems.

Advantages

- a) Reduced travel cost and time
- b) Better country knowledge
- c) More conducive to working with local project preparation teams

Disadvantages

- a) Increased communication difficulty and cost
- b) Higher staff costs
- c) Loss of FAO technical input and impact on FAO
- d) Loss of "critical mass"
- e) Risk of becoming de facto Bank field staff

4. FAO REGIONAL OFFICES

The problems associated with outposting of staff to FAO regional offices are similar to those associated with locating them in Bank regional offices, but would tend to be accentuated by the complexity of the reporting situation.

Advantages

- a) As 3a, b, c (above)
- b) Close ties with FAO field staff

Disadvantages

- a) As 3a, b, d (above)
- b) Isolation from both FAO and Bank thinking and policies
- c) Difficult reporting situation

5. CP, BANK OR FAO COUNTRY OFFICES

The advantages of close association with national preparation teams that can be gained by outposting may - in a few cases - more than compensate for high cost and isolation problems associated with country posting.

Advantages

- a) Greatest benefits from 4a,
- b (above)

Disadvantages

- a) Most serious expression of disadvantages listed under 4a, b, c (above)
- b) Loss of objectivity on country issues
- c) Reduced access to senior echelons of Government
- d) CP is not geared to manage out-posted staff

INTEGRATION OF THE INVESTMENT CENTRE -- IMPLICATIONS FOR THOSE AFFECTED

Below, we define the concept of "integration" and list its major:

- I. Implications for IC
- II. Implications for WB
- III. Implications for other lenders
- IV. Implications for countries
- V. Implications for FAO

An Operational Definition of "Integration"

A. Features

1. Regionalized multi-disciplinary services, each serving (potentially) all lender clients active in given regions;
2. Lender clients and FAO finance IC on man-year rather than position basis;
3. Identification at the request of a lender continues to be exclusively for that lender;
4. Preparation always done for a predetermined lender at its request;
5. Reconnaissance and identification at IC initiative need not have fixed lender in mind;
6. Share of IC time for activities other than lender-requested is limited to residual over agreed lender time budgets: FAO would underwrite total cost.

B. The Essence of the Change

1. Lenders would buy man-years of effort rather than positions; and
2. The work of all lenders in a given region would be the responsibility of a single operating unit.

I. Implications for IC

A. Advantages

1. Increased efficiency of resource utilization (and hence increased productivity).
 - (a) Mission schedules and TORs combine complementary tasks for different lenders;
 - (b) Data collection, analysis and presentation serve more than one user;
 - (c) Balanced services facilitate manpower exchange;
 - (d) Requisite forward planning increases usefulness of downtime;
2. Duplication and in-country conflicts reduced since each Service Chief is responsible for the timely execution of the work load of all lenders in his region;

3. More independent of any one lender with respect to scheduling of given work load, in view of need to accommodate requirements of other lenders;
4. Smaller regions and consequent better country knowledge;
5. Greater independence of scheduling facilitates "own initiative" project generation;
6. More latitude -- given greater staff knowledge of various lenders' requirements -- to match "own initiative" and UNDP projects with most suitable lender;
7. Higher absorption capacity for new recruits.

B. Disadvantages

1. Complexity of work programming;
2. Administrative burden of accurate time recording system (but this may be necessary anyway for internal management);
3. Dilution of specialized knowledge of lender requirements;
4. Loss of consistent identity with lenders, possibly reducing access to officials and information in countries;
5. Reduced capacity to place client financier interests above FAO's when they conflict.

II. Implications for WB

A. Advantages

1. Increased efficiency results in reduced cost per project;
2. Independent critic rôle of IC greatly strengthened;
3. Early notice of opportunities and needs for activities to complement those of other lenders;
4. Increased capacity to bring familiarity with Bank standards to the work of other financiers.

B. Disadvantages

1. Reduced control over timing of WB workload in IC;
2. Increased lapse time for reports from multi-task missions;
3. Reduced flexibility in IC timing to accommodate short-notice changes in WB priorities;

4. Fear of reduced work quality as result of - -
 - (a) reduced awareness of WB requirements;
 - (b) high calibre CP men no longer full-time on WB projects;
5. Uncertainty of "getting its money's worth" in view of other claims on individuals.

III. Implications for Other Lenders

A. Advantages

1. Access to broader range of technical staff;
2. Work of former CP staff would be to WB standards, with spin off to other staff;

B. Disadvantages

1. Fear of competing for common manpower pool, especially in view of relative size and seniority of WB;
2. Loss of "special attention" management of present Coordinator;
3. Reduced certainty of timely report delivery;
4. Same "money's worth" fears as WB, probably aggravated by size differences.

IV. Implications for Countries

A. Advantages

1. IC more responsive to project ideas introduced during field work;
2. Increased certainty of IC objectivity in project formulation;
3. Better counsel by IC staff on funding prospects from range of lenders;
4. Wider perspective of IC staff for project potential at recognition stage;
5. Reduced aggregate counterpart time required to deal with multipurpose missions.

B. Disadvantages

1. Increased uncertainty of lender endorsement of IC position;
2. Increased risk of major changes at time of appraisal.

V. Implications for FAO

A. Advantages

1. Reduced domination of its IC by WB;
2. Greater influence over staffing and work program, especially use of down-time;
3. Increased certainty and forward planning of IC input into UNDP and regular program;
4. Flexibility to respond to requirements of "new" lenders (e.g. IFAD);
5. Reduced isolation of IC, especially if time exchange with non-IC staff introduced;
6. Standard financing formula could simplify budgeting for IC.

B. Disadvantages

1. Possibly reduced effectiveness of IC as result of looser ties with financiers;
2. Greater administrative burden of time-exchange system if it is to include non-IC manpower;
3. Less direct working-level contact with WB through full-time "Bank" men in IC;
4. Greater complexity of confidentiality problems with IC documents could reduce non-IC access.

POSITION RESPONSIBILITIES UNDER THE RECOMMENDED STRUCTURE

1. Director

- (a) Plan, direct and control the activities of the IC; supervise the Deputy Directors, UNDP Coordinators and the Chief of the Program and Administration Office
- (b) Represent IC at the management and policy level with all external agencies and with other parts of FAO
- (c) Interpret parent agencies' policies in the conduct of IC activities
- (d) Oversee time exchange between CP and the non-CP part of the IC
- (e) Through the UNDP Coordinator(s), oversee the timely infusions -- on a reimbursable basis by IC personnel -- of investment expertise into UNDP, WFP and Trust Fund activities
- (f) Coordinate FAO's relations with the CGFPI
- (g) Special assignments for the Assistant Director General, Development Department, and the Director General of FAO

2. Deputy Director, Operations

- (a) Oversee preparation and execution of the CP work program and budget; supervise the CP service chiefs
- (b) Conduct liaison with the World Bank on operational matters, including priority setting among Regions, program implementation and policy application
- (c) Coordinate staff lending among CP services; with Bank managers, as necessary, resolve conflicting priorities for the use of CP resources
- (d) Review project preparation issues papers
- (e) Review project reports on an exception basis
- (f) Oversee the scheduling and execution of CP/FAO time exchanges

3. Deputy Director, Policy, Professional Development and Liaison

- (a) Plan, coordinate and direct the non-operational activities of the IC; supervise the Senior Adviser, Senior Agricultural Adviser, the Information Center and the non-operational work of Senior Specialists
- (b) Initiate and oversee studies of IC policy and conduct broad evaluation of IC activities; chair the IC Policy Advisory Committee

- (c) Oversee the development of guidelines and standard formats to facilitate preappraisal work and increase the utility of reports to countries and financiers
- (d) Plan, coordinate and oversee professional development activities
- (e) Coordinate IC's contributions to the policy development of parent agencies (including FAO)
- (f) Liaise with other parts of FAO and serve as or oversee the IC representative on FAO interdivisional working groups
- (g) Oversee IC's direct FAO support activities
- (h) Conduct non-operational liaison between FAO and the World Bank keeping key staff in each organization as aware as possible of the other's activities of potential interest or relevance (assisted in Washington by the CP Coordinator and the FAO Regional Office)
- (i) Review identification reports, BTOs, Issues Papers, and, on an exception basis, preparation reports
- (j) Serve as Acting Director in the absence of the Director

4. Senior Adviser

- (a) Assist in the discharge of IC's responsibilities with respect to the CGFPI
- (b) Contribute to quality control on an exceptional review basis
- (c) Assist in the interpretation of parent agency policies of relevance to the work of IC
- (d) Perform special assignments as requested

5. Senior Agricultural Adviser

- (a) Assist Deputy Director, PPL, in planning, coordinating, overseeing and integrating as necessary the non-operational work of the Senior Specialists
- (b) Serve as the Senior Specialist for integrated or multi-sector rural development
- (c) Assist missions in the field on difficult or innovative agricultural components of projects (field time should not exceed 25% in any one year, and regular report-writing assignments should not be undertaken)
- (d) Represent IC in multi-disciplinary technical groups (e.g. IDWG-Rural Development, TAC) and other FAO fora, as assigned

(e) Frequently serve as member of the Report Review Committee

(f) Perform special assignments as requested

6. Senior Specialists (25% of time)

(e.g. in Agronomy, Irrigation, Livestock, Fisheries, Forestry, Education, Economics, Credit)

(a) Develop (or coordinate development of) guidelines and standard formats and analyses for work within their respective disciplines

(b) Liaise with their counterpart FAO technical divisions and CPS advisers and serve as member of Joint Groups

(c) Participate in the IC Policy Advisory Committee

(d) Screen technical publications and Bank and FAO documents to identify and circulate material relevant to the work of colleagues

(e) Participate in interdivisional working groups

(f) Visit missions in the field occasionally in an "elder statesman" capacity to advise on difficult issues within their respective disciplines

(g) Participate in IC report reviews at the request of service chiefs

(h) Chair occasional seminars and selected IC-wide cause study sessions

(i) Take the lead role in the technical orientation of new staff.

7. Chief, Program Coordination and Administration Office

(a) Serve the Director as a management adviser; supervise the central administrative units -- i.e. Personnel, Budget and Finance, Registry, Report Production and Maps; provide functional leadership to the services' operations officers

(b) Monitor systems for providing administrative and secretarial/-clerical services

(c) Interpret and satisfy managers' overall information needs, including the design and production of regular and ad hoc reports

(d) For the Director, monitor the timely provision by services of complete and accurate time reporting data

8. Service Chief (and head of non-WB investment assistance group)

(a) Plan, direct and control the service's activities

(b) Assure the quality of work performed

- (c) Assure the training and development of subordinate staff; evaluate their performance; provide and convey feedback
- (d) Plan and control work schedules (by project and by staff member); recruit and assign staff
- (e) Select consultants (with mission leader)
- (f) Oversee service administration (with Operations Officer)
- (g) Conduct liaison with counterpart managers in the Bank (or other financing agency) with regard to work to be done, schedules, substantive issues, priorities, etc.
- (h) Supervise the conduct of necessary activities regarding special interest UNDP projects within the service's purview

9. Operations Officer (one for each CP Service)

On the Service Chief's behalf (and subject to the functional oversight of the Program Coordination and Administration Officer):

- (a) Assign support staff within the service in response to workload demands
- (b) Coordinate and assist in the preparation, maintenance and distribution of project timetables and mission schedules
- (c) Assure the prompt accurate submission of time sheets
- (d) Supervise service filing and intra-service distribution systems
- (e) Assist with arrangements for debriefing and report review
- (f) Assist in expediting and coordinating report production and consultant recruitment
- (g) Other tasks as assigned.

AGRICULTURAL EDUCATION, TRAINING AND EXTENSION

We were requested to review the organizational and conceptual status within CP of education activities. Our conclusions are summarized below.

A. Profile

1. Dimension of the Task. Agricultural education, training and extension to remove the human resource constraint on agricultural production has at least three dimensions - -
 - Fostering the recipients' desire to learn or change
 - Imparting the necessary skills, and
 - Increasing farmers' micro-economic awareness
2. Collaboration. Involved with agricultural education are the Bank, FAO, UNESCO and ILO. Collaboration arrangements include:
 - FAO/WB Cooperative Programme (3 agricultural education specialists)
 - UNESCO/WB Cooperative Programme (2 agricultural education specialists) and
 - FAO/UNESCO/ILO Joint Advisory Committee on Agricultural Education, Science and Training (no permanent staff)
3. CP Activities. The FAO/WB/CP participates in UNESCO and WB missions on education projects with agricultural components, identifies and helps prepare agricultural education projects for the Bank and participates in CP missions involving agricultural extension and training.

B. Assessment

1. Role Unclear. Because the role of educators in the CP has not been clearly defined problems have arisen. Some of the symptoms include a:
 - Divergence of opinion about priorities among CP educators
 - Feeling that CP's educators have become isolated from CP's agricultural staff

- Tendency for UNESCO and education divisions of the Bank to use CP as a "hiring hall" for individual education specialists
- Loss of opportunities to use CP educators to the maximum extent in addressing the human resource dimensions of CP agricultural projects
- Tendency for agricultural education to have difficulty competing with other subsectors for management attention.

The problem has, we suspect, been compounded by vague lines of responsibility for agricultural education in the Bank's Regions and by lacunae in the FAO/UNESCO relationship.

C. Recommendations

Our recommendations follow:

1. Integration Within CP. Education staff should be fully integrated within the service structure of the IC and one of the educators should be designated as a "Senior Specialist".
2. Clarify Role. The role of CP's educators should be clarified. We suggest that it be primarily to focus on the immediate manpower and training needs of CP-prepared agricultural and rural development projects. While such needs should be addressed in the context of national education policies, CP's educators should generally avoid being drawn into broad issues of human resource development at the national level, except in research and extension projects. If this view is accepted it should be developed in a written circular to CP staff and then adhered to.
3. Non-CP Use. Use of CP educators directly in the work of UNESCO and the education divisions of the WB or in providing leadership in the formulation of agricultural education projects should be subordinated to the fulfillment of the primary role.
4. Vehicles. Vehicles such as working papers and seminars should be developed (and held) to close the gap between educators and agriculturalists among CP staff and help clarify the distinctions among education, training, extension and man-power planning and their implications in project work.
5. Internal Procedures. To ensure adequate attention to the human resource elements of agricultural projects, terms of reference for identification and preparation

missions should include explicit reference to the need to determine possible human resource constraints and an educator should participate in all identification mission debriefings and in preparation missions for projects involving extensive or difficult training and extension components. Also, educators should be involved in the Review Committee for preparation reports pertaining to projects with a significant manpower dimension.

ANNEX 5: BANK/CP COORDINATION, PLANNING, BUDGETING AND CONTROL

TABLE OF CONTENTS

	<u>Page</u>
I. <u>ASSESSMENT</u>	1
A. Communication Problems	1
B. Bank Managers' Desire for Control	2
C. Danger of Bank's Control Impulse	3
D. Impact of Planning, Programming, Budgeting and Control Problems ..	3
II. <u>RECOMMENDATIONS</u>	6
A. Preappraisal	7
B. Budgeting	9
C. Management Information and Control	11
D. The Integrated System	12

TABLES

Pipeline Problems	Table 1
Intervals to Appraisal, Problem Projects	2
Project Generation Plan	3
Project Generation Timetable	4
Budget and Programming Lead Times	5
Integrated Bank and CP Systems	6
Indicative CP Resource Deployment	7

ATTACHMENT 1: PROPOSED AGRICULTURAL PROJECT GENERATION PLANNING AND PROGRAMMING PROCEDURES

A. Overview	1
B. Preparing and Updating Preappraisal Timetables	1
C. PGP Updating Procedures	3

ATTACHMENT 2: AN INFORMED BASIS FOR BUDGETING PREAPPRAISAL WORK AND CP RESOURCES

I. <u>INTRODUCTION</u>	1
II. <u>PROCEDURES</u>	1
A. "Bottom-Up" Approach	1
B. "Top-Down" Approach	3
C. Reconciliation of the Two Approaches	5
D. Time Allocation Between Preappraisal Work and Other CP Activities	5
III. <u>RESPONSIBILITY AND TIMING</u>	7

TABLE - Illustrative Top-Down CP Size Projection

ATTACHMENT 3: MANAGEMENT INFORMATION AND CONTROL: OUTLINE DESCRIPTION OF TIME REPORTING SYSTEM

I. <u>OVERVIEW</u>	1
II. <u>THE TIME REPORTING SYSTEM: REPORTS AND PROCEDURES</u>	1
A. Data Required	1
B. Processing of the Data	2
C. Management Reports of Time Expenditure	2

BANK/CP COORDINATION, PLANNING, BUDGETING AND CONTROLI. ASSESSMENT

Close coordination is an inherently complicated task -- rendered particularly difficult between the Bank and CP by distance, organizational separateness, fluidity of methodologies involved and the Bank's geographically-oriented structure. Considering these obstacles -- and even given the large number of recommendations we have for improvement -- we are impressed by the comparatively good relationships between the Bank and CP. Of course, the relationships are not perfect. It is useful, therefore, -- for purposes of improved dialogue as well as analysis -- to examine some of the common causes of frustrations that arise and some of the attitudes held on each side about the overall relationship. We examine in turn:

- A. Communication problems
- B. Bank managers' desire for control
- C. Danger of Bank's control impulse
- D. The impact of planning, programming, budgeting and control problems

A. Communication Problems

Where scale and distance permit, more frequent and informal personal contact can be the easiest and best solution to communication problems, but more systematic solutions are also needed between the Bank and CP.

1. Bank View. In the Bank view, although CP knows Bank needs and thinking better than most consultants, it is thought not to be fully au courant with or sympathetic to the Bank. Bank managers usually concede that the Bank is not diligent enough in communicating expectations (project-by-project and on a policy level) or frank and conscientious enough in conveying its reactions to CP work.
2. CP View. CP people concur with the Bank view. They desire more substantive feedback, want more Bank documents and also -- as the largest single agriculture unit -- want to be heard and consulted on project policy questions.
3. Specific Documents. CP managers would like routinely to receive the P&B IVb lending operations tables and the agriculture project timetables as aids to scheduling. The Service Chiefs apparently learned only recently that specific amounts of CP manpower were budgeted to each Region; they would like to know more (and so would many Bank managers) about the process through which each Region's allocations are made and priorities established. In our questionnaire to CP staff (see Basic Reference Data, Table 11:6), the following documents were:

	<u>Wanted By:</u>	<u>Seldom or Never Received By:</u>
Supervision Reports	87%	78%
Issues Papers/Decision Memoranda	87	78
Policy Papers/Guidelines	92	65
Central Projects Memos	87	89
Working Papers (CPS and DPS)	79	90

4. The CP Coordinator Position in the Bank's Central Projects Staff. As a CP/Bank communications link and facilitator -- principally through signalling of each side's likely view-point to the other -- the present Washington CP "Coordinator" position is (and is considered to be) most useful. Inherent limits, however, are imposed on the position's potentialities by the Bank's decentralized structure. Moreover, the position has an administrative and operations-oriented focus that has not encompassed broader Bank/FAO relationships.

(See Annex 4 and Annex 6 in addition to Part II of this Annex for recommendations affecting the communications problem.)

B. Bank Managers' Desire for Control

1. Integration Backwards. Although more resources are widely considered necessary for project preparation assistance and can be used if placed in the CP, many Bank line managers would prefer that any additional staff be added to the Bank Regions rather than to CP. Most Bank line managers intellectually recognize the existence of broader considerations such as the advantage of a second professional opinion (although they tend to be unaware of the cost implications and of the extent to which CP draws support from FAO) but, if given the choice, would also prefer to have CP's present staff assigned to their own divisions rather than to CP. This attitude reflects their desire to control the largest single feeder of their project pipeline, to "integrate backwards," and to eliminate uncertainties resulting from competition with other Bank managers for the resource. It is the natural and understandable reflex of a pressured line manager. Also, it reflects the desire for greater flexibility that might come with a larger staff.
2. Danger of Diversion. Despite the above desire, Bank line managers are quite willing to admit the danger that the pressures of supervision and appraisal work would be likely to lead them to divert staff under their control away from preparation work -- with deleterious results for the long term. They also see the potential for internecine frictions if the Bank were to create in CPS a separate department for preparing agriculture projects.

3. "Screen" Effect. Because of CP's remoteness and necessary intermediate layer of management, Bank line managers feel they must (in the words of one of them) manage the CP resources through a "screen." Because detailed Bank-style timetables are not available on CP preparation work, and because Bank managers (lacking reliable time reporting system data on CP) have no way of knowing whether they receive the level of resources from the CP that has been allocated to them in their budgets (and suspect -- probably incorrectly -- that they do not), they hesitate to become reliant on the CP resource; they tend to hold down their requests for CP service at budget time.

C. Danger of Bank's Control Impulse

To the extent that the Bank seeks to use -- and direct -- CP as a supplementary source of Bank staff rather than as a sub-contractor or partner accountable for results (i.e. projects ready for appraisal), the leaders of CP will tend to lose the confidence of their staff and will find it increasingly difficult over time to perform their leadership role in attracting, holding, motivating and professionally developing top quality people. This explains their reluctance to respond favorably to requests on short notice for named staff to participate in appraisal missions. It should be recognized, however, that occasional participation in Bank-led appraisal, supervision and sector missions and overall responsiveness to the Bank's needs for flexible scheduling are not incompatible with the exercise by CP managers of independent professional judgment or leadership. Bank tendencies to use CP as a "stable" of extra manpower also overlook the long-term benefits of an effective Rome connection and the inefficiencies of trying to manage staff from a distance of 4,000 miles.

D. Impact of Planning, Programming, Budgeting and Control Problems

While some Bank Divisions have instituted systems for preappraisal planning, most have not. Partly as a result, CP's advance planning has also been extremely limited -- in most cases confined, in fact, to the six-month travel schedule. Moreover, the time reporting system necessary for controlling CP's preappraisal manpower utilization against a plan and for improving planning and budget estimates in the future is not functioning adequately. This failure systematically to translate the lending programmes outlined in Bank Country Program Papers into forward programmes for pre-appraisal work -- coupled with related uncertainties as to the levels of "net" CP time allocated to and received by Bank operating units -- is a root cause of many Bank/CP relationship problems, for it:

- Tends to force "short string" crisis management and increase the tendency of scheduling imperatives to drive inter-regional CP resource allocation decisions.

- Impedes recognition of the long lead times generally required for fully effective project preparation and thereby causes opportunities to be lost for providing early preparation assistance to local preparation teams where this would be desirable.
- Forces decisions on the CP budget -- which may affect projects scheduled for Board presentation as much as five years ahead -- and decisions on the sub-allocation of CP resources among Regions to be subjective and incremental rather than workload-based.

Below, we discuss the impact of these problems in more detail.

1. Uneven Pipeline Planning. While some Bank managers are diligent about preappraisal pipeline planning (e.g. EAF has preappraisal timetables), many agriculture division chiefs allow their proper concern for meeting the current FY's lending targets to weaken planning for future years. Our pipeline analysis, made on the basis of data supplied by Bank Division Chiefs, showed, for example, that of the 95 projects programmed for FY77 as of March 31, 1975, 29 were "unidentified" and preparation work had not begun on 32 that were "identified."* This overall state of the pipeline masks what appear to be more serious situations in EMENA and South Asia which between them had 19 out of 34 projects unidentified for FY77 and in those Regions the situation also appeared serious for FY76. (See Table 1.) Of course, we have not examined the programs in detail and it is possible that factors of which we are not aware make the situation less serious than it appears.
2. Tendency to Manage CP by Schedules Rather than Results. Beyond its intrinsic undesirability from the Bank's viewpoint, the apparently tight pipeline situation reinforces the tendency of Bank Division Chiefs to seek to manage CP schedules rather than CP results. By reducing the lead times that can be permitted in preparation, it induces paratrooping and diminishes the possibilities for full country involvement in the preparation work. It may also contribute to rather erratic patterns of Bank response to CP preparation work. For example, with respect to CP preparation reports completed in the four-year period from 1970-73:

* If the unidentified projects are identified within four months of our survey date; if 3 months later preparation begins and is entirely concluded -- i.e. the blue cover report is forwarded to the Government -- 5 months after it began (this, of course, assumes paratrooping); if an appraisal mission departs 4 months after that and 9 months then transpire until Board presentation; the now unidentified projects will be approved in May of 1977. (Data from one division was not included in the overall figures.)

- 30% were followed by departure of the appraisal mission within 2 months of completion;
- 36%, however, "sat" for 9 or more months before an appraisal mission departed;
- the median interval was 4 months.

We are not sure of the explanation, but these data may suggest an intense bunching of effort followed by significant loosening of pressure after a year-end deadline is missed. (See Table 2.)

3. Penalties of the Short String. The syndrome of uneven pipeline planning followed by very tight and short-notice preparation scheduling (and what has occasionally been referred to as a tendency to seek to manage CP from Washington through a "shower of cables") has costs.
- a) Preparation Quality. Most fundamentally, because of its important purpose of building full country understanding and commitment, preparation assistance is less likely to be fully successful when it is rushed.
 - b) Preparation Efficiency. The increased paratrooping that short-notice scheduling induces tends to consume more CP-applied time than the bus-stopping that better planning would facilitate (see Annex 2, Table 1).
 - c) Post-Preparation Efficiency. Corners that have to be cut during short-notice preparation tend to increase the difficulty, cost and time lapse of subsequent appraisal work and may even impair implementation.
 - d) CP Efficiency. CP's efforts to respond to rapidly changing signals (although, ironically CP is considered comparatively inflexible by Bank managers) may conceivably increase Bank efficiency, at least in the short term, but they diminish CP efficiency by:
 - Causing situations of insufficient mission "gear-up" time and converse situations of wasted gear-up effort;
 - Accentuating workload peaks and dips;
 - Complicating time management between missions;
 - Inducing a greater use of consultants, sometimes under crash recruitment conditions which may be costly, particularly in terms of quality;
 - Straining relations with confused government agencies.

e) Credibility and Morale. The frequent rush requests and changes of priority caused by "short string" management tend to impair Bank credibility and lower morale in the ranks of CP. The erratic intervals between preparation and appraisal are sometimes construed as a somewhat frenetic "hurry-up-and-wait" pattern. The impression held by many in the ranks of CP that the Bank wishes from it an almost Pavlovian responsiveness is -- although false in our opinion -- demoralizing.

4. Costs of Weak Control Information. While accepted in principle by CP management, the CP time recording system has not yet been made to work in practice. As a result, its potential long-term value as a source of information on manpower requirements (i.e. coefficients) for preappraisal tasks and as a management tool for tracking inputs against plans has not been realized. Bank Division Chiefs grow uneasy because they do not know how much "net" CP time has been devoted to work on projects under their purview or how much usable CP staff time they can expect for the remainder of the year. CP managers do not know with precision how CP time is spent -- how much time, for example, is "down-time" (i.e. time lost to Bank operations because of scheduling hiatuses or limitations on the amount of travel a staff member can be expected to undertake), how much time might be available at minimal cost for long-term activities such as professional development. The Bank as a whole is forced to look to CP for full-time people rather than for managed man-years, which impedes CP/FAO interaction and the benefits that could result from it.

II. RECOMMENDATIONS

Earlier and fuller delegation to a more systematically-managed CP is needed to permit bus-stopping, CP accountability and long-term efficiency as well as fully productive working relationships. Systematic Bank and CP methods for planning, programming, budgeting and controlling preappraisal activities are prerequisites to earlier and fuller delegation. They can also help:

1. Assure a future pipeline of projects ready for appraisal which is neither -- after discounting for slippage and drop-outs -- larger than the Bank's appraisal capacity (and therefore wasteful in terms of the preparation work done) nor smaller than the Bank's financing capacity (and therefore a constraint on project lending);
2. Give more lead time to preparation work so that it can be done better and with a degree of local participation that enhances country understanding and commitment and, as a result, the efficiency of appraisal and quality of implementation as well as the country's capacity to prepare its own projects in the future;

3. Contribute to realistic manpower planning and budgeting -- both by the Bank and CP -- to assure a sound balance of resources available for preappraisal and other activities;
4. Facilitate Bank and CP scheduling by giving more advance notice of preparation deadlines, thereby broadening the range of scheduling alternatives and reducing the inefficient tendency to manage CP on a "short string";
5. Permit the CP-Bank contractual relationship to be expressed in terms of operational targets and expended time rather than simply numbers of full-time on-board staff; and
6. Improve the mutual confidence between Bank and CP managers -- and the efficiency of their units -- by surfacing problems before they become crises.

To be systematic in their project generation planning, Bank managers need to know not only what work has to be done and what portion of it they would like to have done by CP, but also what CP is likely to be able to do. The process is somewhat circular, or at least iterative. Bank Regions have to know the scale of CP resources that will be delivered to them each year -- i.e., net CP operating time. The overall size and budget of CP, in turn, should reflect Bank preappraisal demands (to the extent compatible with FAO objectives for investment-related work) augmented as necessary by agreed time allocations for CP activities such as management and administration, staff development and FAO support. Performance against plans and budget then needs to be monitored to reveal departures and improve the accuracy of future planning and cost estimation.

The overall system we propose has three broad interlocked components:

- A. Preappraisal planning and programming
- B. Budgeting
- C. Control

Below, we summarize our proposals with respect to each component. Attachments 1, 2 and 3 provide detailed implementing instructions.

A. Preappraisal Planning and Programming

In order to ensure the timely and efficient preparation of projects suitable for appraisal at scheduled dates, each Bank Region and CPS needs to translate its broad lending program outlined in the CPPs into a 3 to 4-year preappraisal work program.* We propose for that

* We suspect that there is no good reason to limit the preappraisal planning and programming system we describe to the agriculture sector, but have not in the course of this study addressed the problems of other sectors.

purpose introduction of standard periodically-updated "Project Generation Plans" (PGPs). For projects involving CP, the PGP data should be derived from CP/Bank-agreed "Project Generation Timetables," which should be updated quarterly.

In a few Bank Regions project generation planning systems already exist, but to serve as the basis for Bank/CP consultation and permit aggregation of workload commitments into a draft CP work program (which would also include non-appraisal assignments), they need to be consistent from Region to Region.

1. The Project Generation Plan. (Our proposed PGP format is Table 3 and related procedures are presented in Attachment 1). Each agriculture project division's Project Generation Plan should summarize its plan for accomplishing its share of the preappraisal work required by the five-year operations program. For each project, the PGP should indicate the entity responsible for preparation, key dates in the project cycle and the manpower requirements (both Bank and CP) for preappraisal. Although this information should be as complete as possible for all projects in the divisional pipeline, it will necessarily be less precise -- particularly on preappraisal manpower requirements -- for projects entering the pipeline in outer years. The plan should be updated quarterly and reviewed with CP at the Bank/CP semi-annual program coordination meetings in order to provide division chiefs with current information on the status of their preappraisal pipeline and the manpower available to work on it. The updating would involve reflecting new CPP and timetable data. The initial work (perhaps four hours quarterly) could be done by support staff or perhaps by the Program Coordinators' offices. Every second year,

Every second year, the Bank-wide aggregation of PGPs will provide a basis for determining the overall demand for CP services, and hence the appropriate size and budget for CP. In all years, the PGPs will also provide the basis for estimates of the Bank's overall preappraisal resource requirements and for Regional and divisional allocations of the CP resource. The latter will be made by P&B, with the advice of the CP Coordinator, by reconciling demand, as expressed in the PGPs, with a "reasonable" indicative allocation based on a review of past levels of CP utilization and a Bank-wide relationship between the level of CP resources and total preappraisal workload. The allocation would be adjusted as necessary to reflect such constraints as FAO policies on regional concentration or Bank policies on staff growth.

2. Project Generation Timetables. (Our proposed CP timetable format is Table 4 and instructions for using it are presented in Attachment 1.) For projects in the PGP for which the CP has preparation responsibility, the CP should complete and maintain Project Generation Timetables. These timetables would summarize the main features of the project, CP's understanding of its role in preparation assistance, target dates and manpower requirements. They would be approved in principle and initialed by the Bank division chiefs. Their approval would make unnecessary the Bank approval of detailed terms of reference for individual missions consistent with the timetables although such approvals may still be sought where questions of coverage or timing exist. The Bank, however, should continue to receive information copies of CP's mission terms of reference. Subject to quarterly updating, the timetables would:

- Provide CP with an agreed basis for its own planning, scheduling and control;
- Provide Bank managers with the data on which the CP portion of PGPs is based;
- Effectively serve as the "contract" between the Bank and CP for work on a given project.

Key information from the CP timetables would be transferred to the preappraisal section of the Bank's standard project timetable (modified to allow manpower requirement estimates and utilization to be recorded). During the preappraisal phase, these should be kept by the Bank projects divisions rather than programs departments.

B. Budgeting

The planning system will permit more rational budgeting for preappraisal work in general and for CP in particular. Because the CP budget, in keeping with that of FAO, is biennial and because the gestation period for agricultural projects -- from initial identification to Board approval -- is often as much as three years, the system ideally should have the capacity to identify workload for projects scheduled for Board presentation at least five years ahead. For the fourth and fifth-year projects, this can be established only notionally.

1. Logical Approach - Aggregated Workload. The logical approach to establishing the required size of the CP and hence its budget would be for the Bank division chiefs to assess, on the basis of a project-by-project review (using the PGPs), the number of projects becoming suitable each year for CP preparation and the manpower required, by

year, for the preparation of each. The aggregated manpower estimate would be equivalent to the total CP preappraisal resource requirement. That, in turn, could be converted to the required size of CP as a whole, making allowance for other demands on CP time such as management and administration, direct FAP support, professional development, leave, etc. Levels of resource allocation for these non-preappraisal functions and their relation to "down-time" would be reexamined at the beginning of each CP budget cycle by FAO and the Bank.

Inevitably -- given that Bank planning for individual projects is increasingly tenuous in outer years -- this "ideal" approach will be subject to considerable errors in the estimation of (i) the number of projects to be prepared by CP, (ii) the manpower requirements per project, and (iii) the impact of slippage and drop-outs. Taken alone, the approach could also lead to sharp inter-annual variations in the estimated CP workload.

2. "Top-down" Approach. The logical "bottom-up" approach will, therefore, need to be complemented by a "top-down" review based on an assessment of the global proportion of projects in the Bank agricultural pipeline which might be prepared by CP, assumptions about productivity and lead time changes, estimates of hiring and funding constraints, and considerations of the need to avoid the inefficiencies of sharp year-to-year size fluctuations.
3. Reconciliation. Final recommendations on CP budget size would result from a reconciliation of the bottom-up analyses and top-down estimates. The budget recommendation thus derived would effectively summarize the CP work program, expressed in man-years and converted to dollars. Main items to be specified would include professional manpower (staff and consultant) allocations for:

"Net Operating Time" (expressed in direct-hire man-years of 40 man-weeks -- to exclude leave, holidays, staff meetings, etc. -- and divided between the Bank Regions and CPS) consisting of:

- Preappraisal time (including UNDP investment potential "special interest" work)
- Appraisal and supervision time (estimated, subject to a global CP ceiling)

Professional Development

Direct FAO Support

Management and Administration

Within the CP, each service chief would maintain subsidiary work programs which would summarize manpower allocations and target dates for specific projects and indicate the time allocated for "non-operating" work. The latter would be programmed against specific tasks by the Deputy Director for Policy, Professional Development and Liaison.

4. Links Between the Bank's and CP's Budget. Because FAO has a biennial budget, changes in the amount of CP manpower resources can be contemplated only once every 2 years (i.e. when preparing the Bank's budget for FY76, FY78, FY80, etc.). In the alternate years, the CP resource should be considered as fixed. The Bank's budget is approved in June; in odd-numbered calendar years when FAO's (and CP's) budget is changeable, FAO budget approval occurs in November (See Table 5). The Bank cannot be certain that its desired and budgeted changes in CP's budget will be reflected in FAO's budget, but because they usually have been, they can generally be assumed as approved for Bank planning purposes until there is evidence to the contrary.

C. Management Information and Control

Planning and scheduling information will be conveyed by PGPs and project generation timetables. Beyond that, the strengthened Bank/CP management information and control system needs to indicate to Bank and CP managers the levels of CP manpower expended on the various types of budgeted activity. This will help assure that CP commitments of resource levels to Regions and programs are met or, if they cannot be met (perhaps because of scheduling impasses), that this is discovered early enough for alternative arrangements to be made to get the necessary work done and suitably employ the available resources.

For these purposes, an effective time reporting system is essential. Also, it is indispensable to the man-year approach to CP budgeting that CP/FAO time exchanges will require. It is almost as important to be diligent, self-conscious and accountable in tracking expenditures of time as it is in tracking expenditures of money. Just as reimbursable services rendered or received should be entered into CP's financial accounting system, time should be registered in the time recording system.

Time expenditures against plan should be shown, broken down by CP service and Bank division, by Region, by:

- Category of Activity (management, preappraisal, professional development, etc.)
- Project
- Subsector

- Source of Staff Time (e.g., CP staff, consultant, other FAO).

(Attachment 3 contains suggested modifications to the existing time recording and reporting system.)

D. The Integrated System

The interrelationships between preappraisal planning, budgeting and control within the proposed system are illustrated in Table 6. The proposed systems are not automatic or self-managing and do not diminish the need for judgement. They are designed to provide timely data that can inform -- and thereby improve the quality of -- the judgments that are required. More specifically,

- The PGP's will provide a bridge from the Bank's Country Program Papers to preappraisal timetables and will give visibility to the manpower implications of pre-appraisal work. Also, they will be the key vehicle for allocating CP resources among the Regions and CPS.
- The CP project generation timetables will facilitate CP's management and scheduling of preappraisal work on individual projects, serve as the basis of CP's agreed preappraisal work program and budget and constitute an input vehicle for updating the CP elements of PGP's and the Bank's overall program of preappraisal work.
- The CP work program and budget will be built up principally from the Bank's CPP-driven PGP-based preappraisal work program, augmented (in approximately pre-determined proportions) to encompass the non-preappraisal activities. (Table 7 illustrates what appear to be reasonable proportions.)
- The CP's time recording and reporting system will permit managers in the Bank and CP to track the utilization of available resources against the work program, foresee resource shortfalls or surpluses early enough to plan remedial action and, over time, develop better baseline data and coefficients for future plans and estimates.

SERIOUS PIPELINE PROBLEMS COULD AFFECT THE BANK'S FISCAL YEAR 1976 AND 1977 AGRICULTURE PROGRAMS...

STATUS OF AGRICULTURAL PROJECTS PIPELINE AS OF MARCH 31, 1975

REGION AND FISCAL YEAR	TOTAL	APPRAISED OR READY FOR APPRAISAL	PREPARATION			IDENTIFIED	
			Near Completion	Less than Half Done	Planned but not Begun	Yes	No
<u>LATIN AMERICA</u> 76	18	8	6	1	2	-	1
<u>CARIBBEAN</u> 77	22	-	4	5	7	2	4
78	17 ^{1/}	-	-	1	2	9	4
(Partial) 79	9	-	-	-	-	-	9
<u>EMENA</u> 76	15 ^{1/}	7	2	1	2	1	1
77	16	-	-	1	3	2	10
78	12	-	-	-	1	1	10
79	17	-	-	-	1	-	16
<u>SOUTH ASIA</u> 76	21	5	7	4	3	-	2
77	18 ^{1/}	-	-	4	4	-	9
78	16	-	-	1	1	-	14
(Partial) 79	6	-	-	-	-	-	6
<u>EAST ASIA/ PACIFIC</u> 76	19	8	8	2	-	-	1
77	15 ^{2/}	-	2	2	3	2	2
78	17 ^{3/}	-	-	-	2	1	11
(Partial) 79	8	-	-	-	2	-	6
<u>EAST AFRICA</u> 76	21	9	10	2	-	-	-
77	15	1	2	3	3	3	3
78	18	-	-	1	-	5	12
79	18	-	-	-	-	5	13
<u>WEST AFRICA</u> 76	10	9	-	-	1	-	-
(Excludes one 77	9	3	2	-	2	1	1
Division) 78	15	-	1	-	4	2	8
(Partial) 79	2	-	-	-	-	-	2
<u>BANK TOTAL</u> 76	104 ^{1/}	46	33	10	8	1	5
(Excl. 1 WAF 77	95 ^{4/}	4	10	15	22	10	29
Division) 78	95 ^{2/}	-	1	3	10	18	59
(Partial) 79	60	-	-	-	3	5	52

HIGHLIGHTS (as of 3/31/75)

Based on division chiefs' data:

1. Of the 104 FY '76 projects for which data was supplied, 57 had preparation work remaining (including 14 on which preparation work had not begun).
2. In S. Asia, 9 of the 21 FY '76 projects were less than half prepared (of which 2 were unidentified and on 3 of which preparation had not begun).
3. In EMENA, 5 of the 15 FY '76 projects are less than half prepared (1 of which is unidentified, and on 3 of which preparation work has not begun).
4. For FY '77's presently programmed projects, on 61 of the 91 concerning which data was supplied, preparation work had not begun. (29 of these had not been identified).

- 1/ Status of 1 project unreported (No World Bank or CP input)
- 2/ Status of 4 projects unreported (No World Bank or CP input)
- 3/ Status of 3 projects unreported (No World Bank or CP input)
- 4/ Status of 5 projects unreported (No World Bank or CP input)

INTERVALS:9 MONTHS AFTER COMPLETION OF THE YELLOW COVER CP PREPARATION REPORT,36% OF CP-ASSISTED PROJECTS HAD NOT YET STARTED TO BE APPRAISED;- HOWEVER, FOR 30%, THE APPRAISAL MISSION HAD DEPARTED WITHIN 2 MONTHSBetween Departure Bank Appraisal Mission and CP Report Date

<u>Number of Reports</u> ^{1/}	<u>0,1 or 2 Months</u>	<u>3,4 or 5 Months</u>	<u>6,7 or 8 Months</u>	<u>9 Months or More</u>	<u>12 Months or More</u>	<u>Median</u>
69	30%	28%	6%	36% of which	14%	4 months

PROJECTS DROPPED: 22% PROJECTS DROPPED AFTER CP YELLOW COVER PREPARATIONS SEEMS HIGH, BUT MAY NOT BE;

- COULD, IF HIGH, INDICATE POOR BANK PLANNING AND FOLLOW-THROUGH,
POOR CP PERFORMANCE OR THE INHERENT UNCERTAINTIES INVOLVED IN OUR WORK:.....

<u>Yellow Cover Reports</u> ^{2/}	<u>Followed by Appraisal</u>	<u>Approved by Board</u> ^{3/}	<u>Appraised but not yet to Board</u>	<u>Not yet Appraised</u> ^{5/}	<u>Dropped</u> ^{6/}
82	60	50 ^{4/}	10	4	18
100%	73%	61%	13%	5%	22%

PROBLEM PROJECTS: CP-ASSISTED PROJECTS ARE SOMEWHAT MORE LIKELY TO BECOME PROBLEM PROJECTS,- BUT THIS WOULD BE EXPECTED AS THE NON-CP ASSISTED GROUP INCLUDES MANY REPEATERS

	(1)	(2)	(3)	(4)	
<u>Date of Problem Project Review</u> ^{1/}	<u>Problem Projects</u>	<u>Total, Excluding Apparent Political Problem Cases</u>	<u>CP-Assisted</u>	<u>CP-Assisted, Excluding Political Problem Cases</u>	<u>(4) as of % (2)</u>
Oct., '73	25	22	11	11	50%
Feb., '75	43 ^{8/}	38	18	17	45%

% of Agriculture Projects Approved in the Past 44 Months that were Prepared by CP: 37%

^{1/} Reports dated from 1-70 through 6-74, but omitting reports that were not followed by appraisal.^{2/} Reports dated from 1-1-70 through 12-31-73, but omitting 7 that cannot be linked to a World Bank project identification number.^{3/} CP records show preparation assistance to another 23 projects approved by the Board in FY 72 - FY 74, where no Yellow Cover report was produced.^{4/} CP records understate substantive CP involvement, listing only 45 of the 50 cases approved by the Board in the period shown.^{5/} Not yet appraised as of April 1975^{6/} Dropped from World Bank operations program as of April 1975.^{7/} Source: Periodic reports prepared by the regions on problem projects. The two sets of reports analyzed were the only ones available before the Task Force left Washington. Only agriculture sector projects are included in the analysis.^{8/} Seven of those in Feb. 1975 were also "problem projects" in Oct. 1973.

Date: (Update quarterly)		PROJECT GENERATION PLAN										Region: West Africa		Division: Agriculture 2				
Project Identification Code By FY	Country and Project	Responsible Bank Officer	Entity Responsible for Preparation	Key Target Dates <i>d/</i>				Preappraisal Manweeks <i>d/</i>										Reasons for Change (asterisk changed items)
				Completion of		Depart. Appr. Mission	Board	Bank (Incl. Consultants)					CP					
				Ident. <i>b/</i>	Prep. <i>d/</i>			FY 76	FY 77	FY 78	FY 79	FY 80	FY 76	FY 77	FY 78	FY 79	FY 80	
1976 3CAMAP05	Cameroon Rubber Plantation Chad Rural Development		Bank	10/73 A	9/74A	1/75A	8/75	0	0	0			0	0	0			1/Id.mission delayed by 3 months, country not ready.
3CHDAD03		Govt.	10/74 A	12/75	3/75A	12/75	0	0	0			0	0	0				
1977 3GAMAD02	Gambia Rural Development		CP	3/74 A	3/75 A	5/75	2/76	0	0	0			0	0	0			
3SENAPO1		CP	9/75 ^{1/}	9/76	10/76	6/77		0				15		10				
3TOGAIO1	Senegal Casamance Rice II		Bank	3/74 A	4/75 A	6/75	7/76	0	2	0								
3IVCAP04	Togo Maritime Agric.Dev		CP/Cons.	6/74 A	12/75	1/76	10/76	2	0				25					
1978 3GUIAD02	Ivory Coast Rubber II		Bank	9/75	9/76	12/76	FY78	5	25	0								
3	Guinea Rice		CP	10/75	12/76	2/77	FY78	1	2				10	20				
3IVCAL	Ivory Coast Livestock		CP	8/76	8/77	9/77	6/78	1	0	2			5	15	10			
3NIRALO2	Nigeria Livestock																	
Totals:								9	29	2			55	35	20			

REDUCED

ANNEX 3
Table 3

ANNEX 5
Table 3

^{d/} Month and Year only; put "A" after "actual" dates.

^{b/} Completion of Identification in case of CP means completion of Project Definition Report;
in the case of some consultants' work, completion of feasibility survey; omit in case of "piggy-backing".

^{d/} Completion of preparation means Bank receipt of final Preparation Report.

^{d/} Put "A" after "actual" manweeks.

**I. C. PROJECT
GENERATION
TIME TABLE**

World Bank/Client Bank:		Project Name:		Project Identification:	
				ANNEX 5 Table 4	
World Bank Projects Division:	Division Code:	Bank Projects Officer:	Planned for Board Presentation in FY:	Country:	
Investment Center Service:	Investment Center Officer:	Alternate I. C. Officer:	Consultant:	Local Prep. Team: YES ☐ NO ☐	

Project Description and Role of C. P.: (See Project Brief dated)

Date of first inclusion in I. C. work program:	Proposed Borrower:	Other Financial Partners:

TIME TABLE			KEY DATES									A	Manweek Estimates		Reasons for Changes:		
			Original Plan			Previous Month's Plan			Current Plan or Actual (A)				Field	Rept. Writ.			
MISSIONS		Kind ^{1/}	Mo.	Day	Yr.	Mo.	Day	Yr.	Mo.	Day	Yr.						
1st	Departure																
	Return																
2nd	Departure																
	Return																
3rd	Departure																
	Return																
4th	Departure																
	Return																
5th	Departure																
	Return																
6th	Departure																
	Return																
7th	Departure																
	Return																
Debriefing after Final Preparation Mission																	
Issues Paper to Bank																	
Receipt of Bank Comments																	
Draft Report Review Meeting																	
Distribution of Final Report																	
Departure of Bridging Mission																	
Departure of Bank Appraisal Mission																	
Possible Causes for Future Slippage/Remarks:																	
												TOTALS →					

Grand Total MW	Total MW by FY		
	FY	FY	FY

I. C. Officer:	Initial:	Date:	Service Chief:	Initial:	Date:	World Bank Division Chief: (approval in principle)	Initial:	Date:

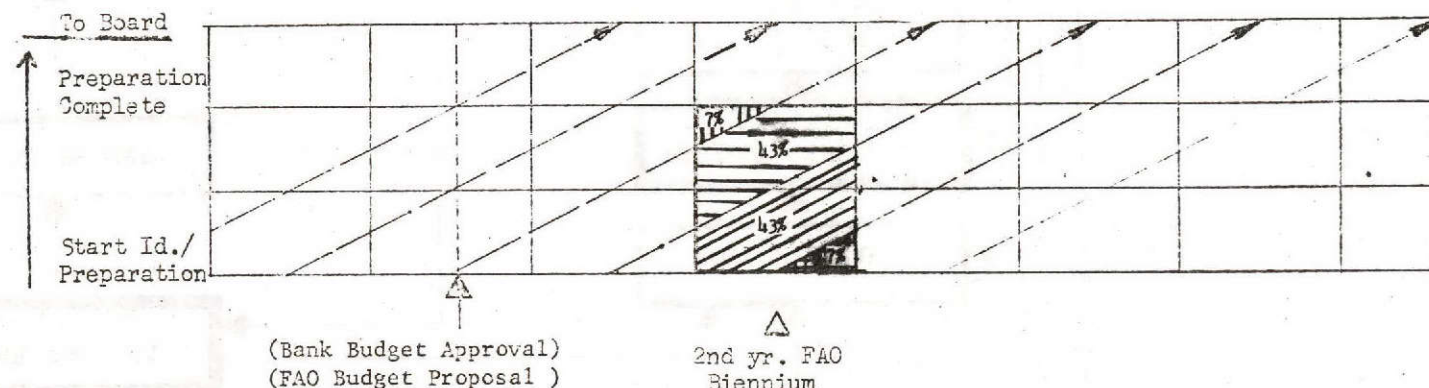
^{1/} Kind of Mission: R = Reconnaissance; PD = Project Definition; P = Preparation; PF = Final Preparation Mission.

BUDGETING FOR PREAPPRAISAL WORK REQUIRES LONG-RANGE ESTIMATES :

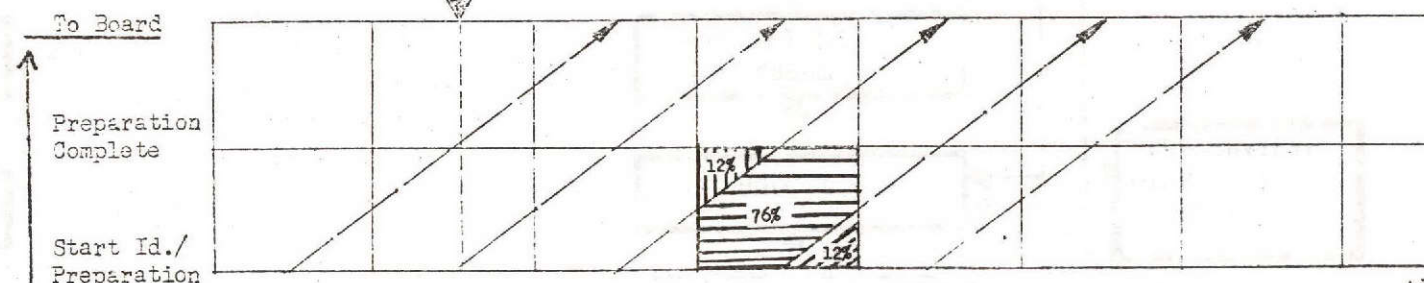
- BUDGET DECISIONS NEED TO REFLECT WORK ON PROJECTS FOR THE BOARD AS MUCH AS 5 YEARS LATER:
- BUDGET DECISIONS ABOUT THE FAO BIENNIUM'S SECOND YEAR WOULD (ASSUMING ONLY PARATROOPING) DETERMINE CP RESOURCES 88% OF WHICH WILL BE APPLIED TO PROJECTS SCHEDULED FOR BOARD APPROVAL MORE THAN 3 YEARS LATER

Calendar Year	1976	1977	1978	1979	1980	1981	1982	
Fiscal Year		1977	1978	1979	1980	1981	1982	1983

I. BUS-STOP PREPARATIONS:
(3 years to Board)



II. PARATROOP PREPARATIONS:
(2 years to Board)

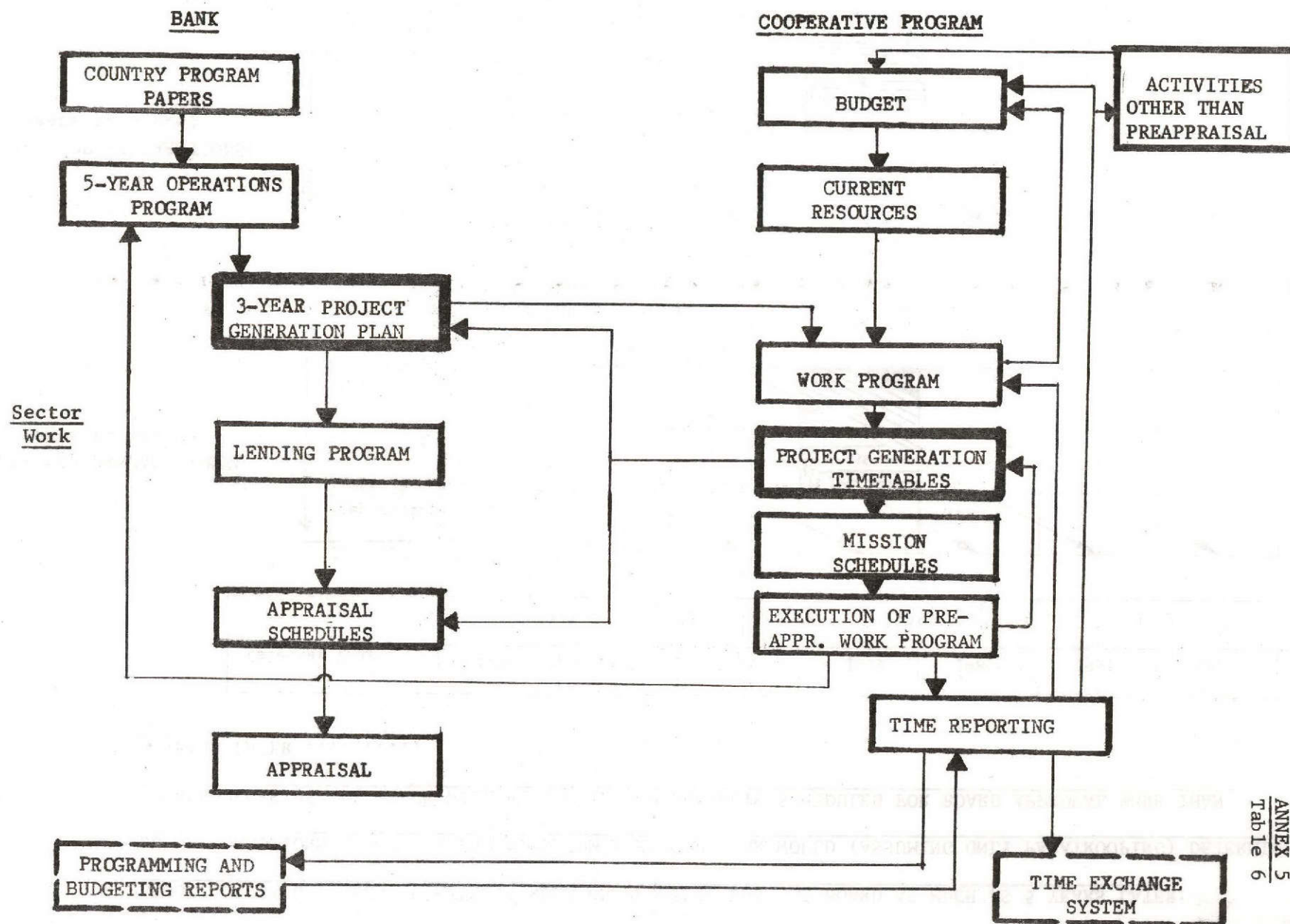


Shaded areas show, in each case, CP work in CY 1978 on projects for Board presentation in:

 FY 80
  FY 81
  FY 82
  FY 83

Figures show the percentage that each shaded area represents of the total work in CY 79 for each type of preparation.

INTEGRATED BANK AND CP SYSTEMS FOR MANAGING PROJECT GENERATION



UNDER OUR INDICATIVE ASSUMPTIONS :

- 68% OF USABLE TIME WOULD BE AVAILABLE FOR PROJECT GENERATION
- 10% OF USABLE TIME WOULD BE AVAILABLE FOR FAO SUPPORT AND STAFF DEVELOPMENT

TIME EXPENDITURE BY ACTIVITY AND STAFF CATEGORY*

	TOTAL MANPOWER RESOURCES (100)			MANAGEMENT STAFF (13)			SENIOR SPECIALISTS (8)			CONSULTANTS (20)			OPERATIONS STAFF (59)		
	Weeks	% of Category		Weeks	% of Category		Weeks	% of Category		Weeks	% of Category		Weeks	% of Category	
		Total Time	Usable Time		Total Time	Usable Time		Total Time	Usable Time		Total Time	Usable Time		Total Time	Usable Time
<u>PROJECT GENERATION</u>	2864	55	68	-	-	-	197	47	62	1000	96	100	1667	55	71
<u>APPRAISAL & SUPERVISION</u>	400	8	10	-	-	-	40	10	12	-	-	-	360	12	15
<u>STAFF DEVELOPMENT</u>	208	4	5	-	-	-	42	10	13	-	-	-	166	5	7
<u>FAO SUPPORT</u>	208	4	5	-	-	-	41	10	13	-	-	-	167	5	7
<u>MANAGEMENT & ADMIN.</u>	520	10	12	520	77	100	-	-	-	-	-	-	-	-	-
<u>LEAVE AND HOLIDAYS, ETC.</u>	1000	19		156	23		96	23		40	4		708	23	
<u>TOTAL</u>	5200	100	100	676	100	100	416	100	100	1040	100	100	3068	100	100

* "Consultant" time may actually be provided by non-CP FAO staff in return for consultant funds.
Operations staff time may actually be provided by non-CP FAO people through time exchange.

PROPOSED AGRICULTURAL PROJECT GENERATION PLANNING AND PROGRAMMING PROCEDURES

This attachment describes the proposed procedures for project generation planning and programming in agriculture. (Proposed formats for the Project Generation Plan (PGP) and IC Project Generation Timetables are tables 3 and 4 of the Annex. The system of which these procedures are a part is described in the body of the Annex.)

A. Overview

1. The PGP is each Bank division's work program and time budget for preappraisal activities. With one line for each project in the operations program, the PGP shows the: project number, country and name, responsible projects officer, target dates for completion of identification (project definition), preparation, departure of appraisal mission and Board presentation, and preappraisal man-week estimates by FY broken down by CP and Bank (including consultants). Essentially, it summarizes and aggregates the division's preappraisal timetables.
2. The IC Project Generation Timetable is, for each Bank project, the CP's Bank-agreed overall preappraisal terms of reference, work program, time budget and schedule. The CP timetable is initially prepared by CP (usually after a Bank/CP coordination meeting) and then approved in principle (i.e. with respect to project concept, preparation approach, and final deadline but not each intermediate deadline) by the Bank. In the aggregate, the CP's project generation timetables are the heart of the CP's work program. The timetables show each project's purpose, major issues and likely causes of difficulty, the number and timing of missions, the manpower needed, the deadlines for related documents, and the names of those responsible in the Bank and CP.
3. Updating. The Project Generation Plans are updated quarterly, based on CPPs, Bank and CP timetables and Bank/CP consultations about manpower availabilities and scheduling feasibility. The timetables are updated whenever necessary but always in time for the quarterly reviews. The year-end PGP update differs from the other quarterly updates because it is also used to provide a basis for the subsequent budget determinations.

B. Preparing and Updating Preappraisal Timetables

1. Non-CP Projects

- a) The Form. For projects whose preappraisal work is not assigned to CP, Bank timetables should be used by the projects divisions for planning and monitoring. In addition to descriptive and deadline data for which space is now provided, the Bank and Bank-financed consultant manpower required for preappraisal by fiscal year should be noted on the timetable, as should the name of the projects officer responsible for monitoring the project during preappraisal.

- b) Initial Completion. The first timetable should be prepared by the projects division chief as soon as the project enters the Bank's long-term operations program and a decision is made that it will not be assigned to CP. This may be immediately after approval of a CPP, after a sector or reconnaissance mission resulting in "recognition" of the project possibility or in connection with a Bank/CP coordination meeting. Completing the initial timetable will entail reaching preliminary decisions (usually in sequence) about when the project might be expected to go to the Board, when preparation will have to be completed, what method of preparation will be employed (on the paratrooping/bus-stopping/squatting spectrum), the nature of the Bank's involvement with the preparation work, the duration of the preparation effort and the necessary resulting starting date.
- c) Updating and Review. While the concerned "responsible project officer" should retain a copy of the timetable and normally should update it whenever the status of an item changes, the projects division chiefs should review all the preappraisal timetables quarterly in relation to the division's overall planning and programming of preappraisal work and in conjunction with the quarterly PGP review. Copies of the projects division chiefs' approved updated preappraisal timetables would be furnished quarterly to the programs division chiefs for concurrence and to the CP for information.

2. CP Projects

- a) Initial Completion. The IC Project Generation Timetable is completed by the responsible officer, reviewed by the appropriate service chief and forwarded to the appropriate Bank projects division chief (through the CP Coordinator) within 10 working days of CP's acceptance of preappraisal responsibility for a project. The completed timetable summarizes CP's understanding of the project, its role in the preappraisal work and the preparation approach to be taken. It contains deadlines for the various steps in the process, estimates of manpower requirements (by step and FY), and identification of who in the CP will be responsible. The Bank division chief, unless he disagrees with some fundamental aspect of the completed timetable (such as the approach, project concept, final deadline or CP's role), initials the timetable and returns it to CP (through the CP Coordinator) with copies to the responsible projects officer and the appropriate country programs division. If the projects division chief disagrees, he seeks to resolve the issue with the CP service chief. If necessary, the projects assistant director and CP's front office become involved. If the issue cannot be resolved and is fundamental, either the Region or CP may decide that CP should not become involved in the preappraisal.

- b) Updating and Review. The responsible CP mission leaders update CP timetables for their own purposes whenever changes occur. Quarterly, but earlier if necessary, they forward them to their CP service chief for review and, if changed, transmittal to the Bank ten days before the quarterly coordination meeting. Bank concurrence is assumed unless its disagreement is registered within 3 weeks of the timetables' dispatch to Washington.
- c) Mission Terms of Reference. Bank clearance of CP terms of reference for individual missions is not necessary where they are wholly within the scope of the pre-agreed project generation timetable (although they should nevertheless be sent to the Bank for information). However, where questions of staffing and timing exist, consultation might usefully occur at a quarterly Bank/CP coordination meeting, by telephone, by mail, or through the Bank's reaction to a previous mission's back-to-office report on the same project.

C. PGP Updating Procedures

1. Quarterly Updating

- a) Draft PGP Update. Quarterly (before the coordination meeting), the Bank agriculture projects division chiefs' secretaries verify with the "responsible project officers" (i) the acceptability of any changes that have been made in the CP timetables and (ii) the continuing validity of Bank timetable data for preappraisal work on non-CP projects. Then, based on the updated timetables, they revise the previous PGPs, identifying changes made to them.
- b) New Projects. At this time, support staff add new projects selected since the quarter began for possible Bank financing (e.g. through CPP updates, reconnaissance missions, or substitution for a "drop-out"). If the first timetable has already been prepared for such a project, the relevant data is entered on the draft revised PGP. If not, the need is called to the division chief's attention. If the division chief is sure the preappraisal work will not be assigned to CP, he designates a responsible Bank project officer and (with his assistance, as desired) prepares the first preappraisal timetable. If the preappraisal work might be assigned to CP, he defers the initial timetable until after the Bank/CP coordination meeting.
- c) PGP Review. The division chief then reviews the draft revised PGP. He assures himself that the revisions that have been made are sound in terms of the individual projects. Next, he totals the pre-appraisal manpower resources needed for the remainder of the year -- by subsector, as necessary -- to assure that there is no shortfall. For this purpose, he may consult reports of CP time utilization to assure that the CP "operating time" allocated to him is not in danger of being overdrawn or underutilized. He also assures himself, taking appraisal and supervision schedules into account, that timetable changes

to the non-CP projects do not create irreconcilable conflicting demands on his staff's time. If they do, he determines what changes are necessary and makes them or decides first to solicit CP help.

- d) Bank/CP Coordination Meeting. At the Bank/CP coordination meeting, proposed changes in the CP project generation timetables are discussed, as are the possible new tasks (whether country sector work, preparation, appraisal or supervision) that CP might undertake. Decisions are reached on both categories of question. In quarters when the meeting is in Rome, the CP Coordinator takes the draft revised PGPs with him together with division chiefs' guidance on programming and scheduling matters that may be at issue. When the meeting is in Washington (mid-year and end-year), the Coordinator attends and helps CP resolve unavoidable conflicts between Regions for CP resources. (Even where no change is involved to the overall budgetary suballocations to Regions, there may be conflicting demands within a given subsector which may necessitate scheduling changes.) The meetings are also used for substantive discussions of project issues and of work already or about to be performed.
- e) Post-Coordination Meeting Tasks. After the coordination meeting, CP prepares (within 10 days) timetables for the new preappraisal work it has undertaken. The CP service chiefs relay to their subordinates feedback from the Bank about past work and necessary input for future work. The Bank division chiefs -- after receiving and approving the CP timetables for new projects -- issue the revised PGPs, with copies to the CP (through the CP Coordinator), the programs divisions chiefs and the Regional program coordinator.

2. The Year-End PGP Update and the Budget Process. The year-end PGP update has a dimension that the other 3 updates lack because of its relation to the budgeting process. Every year, it has an impact on the allocation of CP resources among the Regions and CPS; in the odd-numbered fiscal years, it also has an important impact on the total size of the CP. The year-end PGP updating procedure therefore differs from the routine quarterly procedure in the following respects:

- a) Indicative CP Allocations. In November, the Bank's Programming and Budgeting Department (with the advice of the CP Coordinator) provides the Region and CPS with an indicative allocation of CP resources for the coming fiscal year and -- in odd-numbered FYs -- for the coming 3 fiscal years. The P&B estimate is based on the Five-Year Work Program tables and, in the odd-numbered FYs, on a rough "top-down" analysis of the sort described in Attachment 2 of this Annex.
- b) Out-year Coverage. The year-end coordination meeting always looks at least 18 months ahead. In the odd-numbered FYs, however, the year-end coordination meetings in Washington look ahead for budgetary purposes, insofar as possible, to 3 years of preappraisal work. This entails notional estimates with respect to projects scheduled for Board presentation as much as 5 years hence.

- c) Draft PGP Transmittal. The draft revised PGPs are sent to the CP by the end of November so that CP management can review them in advance of the December coordination meetings.
- d) Proposed PGP. After the meetings and with the advice of the CP Coordinator and CP management, the Regions submit to P&B "Proposed PGPs" for the coming fiscal year(s) either reflecting the indicative allocations for the coming fiscal year(s) or accompanied by a statement why they believe the indicative allocations of CP resources to be inappropriate.
- e) Allocation Decision. With respect to CP resources for the coming fiscal year(s), the PGP remains tentative until the decision is reached (based on P&B, CPS and CP recommendations) on how to allocate the CP resource in the coming fiscal year(s) and on how large those resources in total are likely to be.
- f) Adjustment. If the CP resources finally allocated to a Region (or CPS) for the future fiscal year (and tentatively indicated for out-years) differ significantly from those anticipated in the Proposed PGPs, the Proposed PGPs and related timetables will need to be revised to reflect the new levels.

AN INFORMED BASIS FOR BUDGETING PREAPPRAISAL WORK AND CP RESOURCES

I. INTRODUCTION

In the past, the size of the CP budget has been fixed somewhat arbitrarily. With more attention to preappraisal planning, as proposed in this Annex, a basis will be created for determining the total professional manpower requirements for the Bank's preappraisal work in the agricultural sector and for identifying the share to be met by the CP. Since preappraisal work occupies the major proportion of CP usable time -- and the other uses can be determined relatively easily -- this would be a key factor in establishing the optimum size of the CP and hence in formulating budget requests.

Because decisions about the CP budget affect the level of CP preappraisal manpower available to work on projects due for Board presentation as much as five years ahead and because the manpower needs of such projects are necessarily somewhat conjectural, an aggregation of the annual manpower estimates from Project Generation Plans cannot be relied on exclusively as a source for recommendations on CP size. Hence this "bottom-up" approach must be supplemented by a "top-down" approach which seeks to relate CP size to the overall Bank lending program for agriculture. Below, we describe both approaches and the process of converting such analyses into a CP budget.

II. PROCEDURES

A. "Bottom-up" Approach

1. Odd-numbered FYs -- Determining CP's Biennial Budget and the Coming Year's Sub-allocations to Regions and CPS

- (a) Aggregate from the Project Generation Plans the annual preappraisal manpower requirements for all agriculture projects in the pipeline on which work will be done in the next 3 fiscal years. Where not available for the outer years, manpower estimates should be derived from past experience (e.g. coefficients developed by the Time Reporting System). The total number of projects under consideration should include potential "drop-outs" and an allowance for slippage.
- (b) Decide -- with CP management -- on the portion of projects for which CP's assistance will be sought. (See Attachment 1: "Proposed Project Generation Planning and Programming Procedures" for detailed procedure.)
- (c) Identify Bank demands on CP manpower for other operational purposes (appraisal and supervision). Quantify these demands and add them to the preappraisal manpower requirements.

- (d) Compare the total CP manpower requests with the indicative allocations to each Region and CPS. Review requests which are inconsistent with the indicative allocations.
- (e) Make adjustments in allocations and/or requests to reflect any changes introduced.
- (f) Add to the net number of CP man-weeks needed a percentage for:
 - Leave, holidays and sickness
 - Management and administration
 - Staff development (excluding appraisal or supervision)
 - FAO supportand arrive at the total CP man-years requested.*
- (g) Convert to dollar equivalents and add an allowance for support services, etc.
- (h) Refer to "top-down" analysis of CP budget requirement and finalize budget request. (See Sections B and C below.)

2. Even-numbered FYs -- Determining the Coming Year's Sub-allocations of CP Time to Regions and CPS (CP Budget fixed).

- (a) Aggregate the PGPs to determine total preappraisal manpower requirements in the coming FY and the estimated share to be provided by CP.
- (b) Quantify Bank demands for other CP operational assistance and include them to arrive at the total net CP resources requested.
- (c) Compare total requested with available CP resources. Within the fixed ceiling of available CP resources, decide what, if any, shifts in the sub-allocation pattern between the Regions and CPS are desirable. (Take these decisions into account in arriving at final non-CP budget allocations through the Bank's normal budget process.)

* A discussion of time allocation between preappraisal work and other CP activities is presented in Section D of this Attachment.

B. "Top-Down" Approach

Taking into account the number of agricultural projects forecast in the Bank's five-year lending program -- extrapolated for one or two more years -- and the recent average size of the CP (in man-years), judgments should be made on the following issues to arrive at an informed basis for determining CP size and the number of new projects to be put in the CP pipeline annually.

- The proportion of all Bank agricultural projects to be prepared with CP assistance
- The CP manpower input per project in relation to recent levels of input
- The average lapsed time per project between initiation of preappraisal work and Bank Board presentation
- The proportion of CP total resources to be applied to pre-appraisal work, and
- Other constraints.

Factors which should be considered in arriving at each judgment are summarized below.

1. Proportion of Bank Agricultural Projects to be Prepared with CP Assistance. The judgment to request and fund CP to assist in preparing a similar, greater or lower proportion than previously of the projects in the Bank's agricultural lending program should be based on considerations such as the following:

- The extent to which projects in the pipeline can be prepared without external assistance (e.g. second phase livestock and credit projects; some irrigation projects, etc.)
- The comparative advantage (including cost to the Bank of the CP vis-a-vis other sources of preparation assistance);
- The preferences of Bank managers (analysis of the proposed Project Generation Plans will indicate in broad terms -- at least for 3 to 4 years of the 5-6 year budget horizon -- the extent to which the Bank managers seek CP assistance);
- The need for reasonable year-to-year continuity in staffing of the CP.

2. The CP Manpower Input per Project in Relation to Recent Levels of Input. A change in the dominant style of preparation assistance from paratrooping to bus-stopping as recommended could be expected to lead to a progressive reduction in the aggregate CP manpower expended per project (although the ratio of mission leaders probably would have to increase). This trend, however, could be offset to some extent by the growing complexity of projects for which the Bank lends.
3. Changes in Lapsed Time Between Initiation of Preappraisal Work and Board Approval. Despite the reduction in applied time per project, increased bus-stopping and a growing proportion of complex projects will increase the lapsed time required for preappraisal work. This means that the number of projects being worked on in any one year by CP will need to be increased even to maintain a constant number of projects completed annually. Projects will need to be assigned to CP further in advance of anticipated appraisal.
4. The Proportion of CP Total Resources Available for Preappraisal Work. We discuss in Section D, below, the allocation of CP time between preappraisal and other activities, including participation in supervision and appraisal work, staff development, direct support to FAO, and management and administration. After making allowance for these activities and for "unusable" time (leave, etc.) all residual time would be available for preappraisal work.
5. The Average Drop-out Rate for CP-prepared Projects. As long as the average drop-out rate for CP projects remains constant, this has no impact on required CP manpower resources since these can be determined in relation to Board approvals rather than projects worked on. If a reduction in drop-out rate were anticipated, however (perhaps in response to changed methods of preparation assistance), the CP could -- with a given level of manpower -- prepare a greater number of successful projects than otherwise. This would necessitate either reducing CP's manpower or raising the project entry rate.
6. Other Factors. Other constraints to be taken into account -- more subjectively -- in formulating CP budget proposals might include:
 - Recruitment capacity of CP
 - Possible Bank or FAO policy not to have CP compete for additional preparation assistance staff with other claimants on IC staff resources (e.g. IFAD, regional banks)

- Overall Bank staff growth limitations
- FAO and Bank budget resource availability
- Broader institutional relationship considerations.

7. Conclusion. By quantifying each of the proportionate changes anticipated, integrating them, making allowance for the lead time required between initiation of pre-appraisal work and Board presentation, and relating them to the professional manpower size of CP in the pre-budget period, it becomes practicable to estimate the proportionate change in overall CP size required to meet the probable pre-appraisal assistance demands of the Bank's lending program. This can also be a means of deriving the indicative sub-allocation levels provided to the Regions and CPS in advance of their year-end PGP update exercise. (An illustrative example of the "top-down" approach is given in Table 1 of this attachment.)

C. Reconciliation of the Two Approaches

1. Compare the CP size arrived at in the "top-down" method with the one found through the "bottom-up" method.
2. If no significant difference exists, use the total number of man-years thus estimated in the budget request.
3. If a significant difference exists, identify which regions have diverged from the indicative CP resource allocations.
4. Discuss and make compensating adjustments in the sub-allocations if possible. Alternatively, reevaluate the assumptions in the sub-allocations and the "top-down" projections as well as those underlying the resource requests. Reach decisions on the CP resource level needed for preappraisal work.

D. Time Allocation Between Preappraisal Work and Other CP Activities

CP professional manpower may be directed toward the following purposes:

- "Unusable" time -- leave, holidays, sickness, personal time, staff meetings, etc. -- (total 12 weeks per staff man-year and 2 weeks per consultant man-year)
- "Usable" time (40 weeks per staff man-year and 50 weeks per consultant man-year)
- Preappraisal assistance for potential Bank-funded projects (including UNDP "special interest" projects)

- Professional development
- Direct support to FAO activities
- Participation in appraisal and supervision missions
- Management and administration.

Table 7 of this Annex illustrates for a CP budget of 100 man-years (of which 80 are direct-hire staff and 20 consultants) the likely amounts of time available for each category. We discuss the categories and their interrelationships below.

1. Management and Administration. CP's management and administration will, assuming acceptance of this report's recommendations, occupy 13 staff members (520 man-weeks -- 12% -- of the aggregate CP usable time). While part of this time may be used for FAO support, staff development and Bank-related operational work, this will generally be in a managerial capacity and hence should be classified as such.
2. Participation in Bank Appraisal and Supervision Missions. The report's recommendations for a minimum level of CP staff participation in appraisal and supervision missions require the allocation of approximately 400 man-weeks per year (10% of usable time) for these purposes.
3. Preappraisal Work and Other Activities; "Down-Time." The residual net CP staff time available for preappraisal work, staff development and FAO support activities is thus about 3280 man-weeks per year or 78% of usable time. No matter how well managed its preappraisal activities, CP will have some staff "down-time" (caused especially by scheduling hiatuses and staff reaching a reasonable limit to annual travel time). Though this down-time has not been specifically measured in the past, it could well equal from 10% to 15% of net direct-hire staff operational time (i.e. in the range of 300 man-weeks per year).

To the extent the CP professional development and direct FAO support activities we have recommended entail assignments which do not have to be pre-scheduled and to the extent that specific periods of down-time can be predicted and utilized even for pre-scheduled activity, these activities can be accommodated as down-time filler work at no additional expense. Alternatively, time "traded" under exchange arrangements with FAO can effectively be converted to preappraisal time. Thus, if the total resources allocated for professional development and direct FAO support work were less than the anticipated down-time, only time-specific assignments which could not be keyed to unconvertible down-time would lead to a reduction in the resources otherwise available for preappraisal work.

The proportion of CP resources allocated for FAO support and staff development should be reexamined annually by the Bank and FAO. In our view, a reasonable initial target would be a total of about 10 man-years (400 man-weeks) divided roughly equally between the two purposes. CP would have full discretion in using this time, whether or not it fell within down-time, though it would be anticipated that it should be largely accommodated within down-time. The CP would normally consult with the Bank on a case-by-case basis on the utilization of time for non-preappraisal work beyond this target.

On this basis, the net time available in a CP with 100 man-years of professional staff time for Bank preappraisal work would be about 2900 man-weeks per year or almost 70% of usable time. This should be regarded as the ceiling which -- after discounting for a reasonable vacancy rate (perhaps 5% of direct-hire positions) -- should correspond for planning purposes with the aggregate annual manpower resource requirements estimated in the Project Generation Plans.

III. RESPONSIBILITY AND TIMING

Final decisions on the budget are taken by the FAO Conference, but take into account the level of contribution pledged by the Bank. To provide an informed basis for the budget proposals, the Bank's Programming and Budgeting Department -- in collaboration with the CP Coordinator -- should take the lead in identifying preappraisal manpower needs by following the two approaches proposed above.

As CP's budget is biennial and based on calendar years (i.e. beginning on January 1st) in contrast to the Bank's financial year (beginning on July 1st), the lead time required for preparation of the budget is considerable. Since, under the cost-sharing arrangements, the CP and Bank budgets must be linked, changes can only be introduced every two years. Moreover, because of the long pre-budget preparatory phase in FAO (over one year), recommendations on CP size must be made well in advance of the budget dates.

Key dates are as follows:

<u>CY</u>	<u>Month</u>	<u>Action</u>
1	November - December	Prepare draft CP budget proposals for Bank and FAO budgets.
2	June	Bank FY1 budget finalized and approved; FAO draft budget finalized.
	July	Bank FY1 budget active.
	November	FAO biennial budget approved; Bank FY2 budget being prepared (CP resources fixed).
3	January	FAO biennial budget active.
	June	Bank FY2 budget finalized and approved.
	July	Bank FY2 budget active.
	November	Bank FY3 budget being prepared (CP resources fixed for first 1/2 year and contingent on FAO 2nd biennial budget for second half of year). Prepare draft proposals for CP 2nd biennial budget.

ILLUSTRATION OF "TOP-DOWN" APPROACH TO PROJECTING THE SIZE OF THE CP

STEPS

	FY1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
1. <u>Projects to be Worked on by CP</u>		Base Years										
a. Number of Bank agriculture projects to the Board ^{1/}	36	47	57	68	75	81	87	93	100	108	119	131
b. % of projects to Board to be prepared by CP	50	34	30	37	36	36	36	36	36	36	36	36
c. Number of projects to Board to be prepared with CP assistance	18	16	17	25	27	29	31	33	36	39	43	47
2. <u>Projects to Enter CP Pipeline</u>												
a. Gross number required to come into CP pipeline to produce necessary throughput -- unadjusted for drop-outs ^{2/}	21	26	28	30	35	39	42	47	51			
b. Total worked on in year ^{3/} (memorandum item)					79	89	100	114	129			
c. Work units to be completed, expressed in "baseline project equivalents" (i.e. the amount of work today needed to complete a preparation) ^{4/}		22	27	30	32	35	38	41	45			
d. Adjustment to reflect greater throughput required by drop-out factor ^{5/}			41		51	56	60	66	72			
3. <u>Man-weeks Required per Completed Project Preappraisal</u>												
a. Man-weeks per completed base-line project ^{6/}			53		50.4	47.7	45.1	42.4	39.8			
b. Adjustment to reflect fact that drop-outs take less work ^{7/}			47.7		45.4	42.9	40.6	38.2	35.8			
4. <u>Net Man-Weeks for Project Preappraisal (2c x 3b)</u>			1956		2315	2402	2436	2521	2578			
5. <u>Proportion of Usable CP Budgeted Professional Time Used for Project Preappraisal (See Table 7 of this Annex.)</u>					68%	68%	68%	68%	68%			
6. <u>Total CP Man-Years Needed On-Line^{8/}</u>			61		81	84	85	88	90			
7. <u>Total CP Budgeted Man-years Needed^{9/}</u>			82		97	101	102	106	108			

* Both the assumptions and methodology of this table would be refined from year-to-year.

- 1/ Derived from Bank 5-year plan, after 1976
- 2/ Assumes average lead time increases gradually from 2-1/2 to 3 years between 1976-1980, because of increased "bus-stopping."
- 3/ Derived from number in CP pipeline and average time in pipeline. Takes into account a gradual shift from 2-1/2 to 3 years preappraisal time in process.
- 4/ In FY78, for example, CP will assumedly work on 100 different projects, 75 of which have 3-year lead times and have 1/3 of their "work" done in the year; 25 have a 2-year lead time and have 1/2 "work" done in the year. Thus, $(1/3 \times 75) + (1/2 \times 25) = 38$.
- 5/ Assumes an overall drop-out rate of 35% of projects entering the pipeline. (We found a 22% drop-out rate after completion of yellow cover preparation report.) Being in "baseline" project equivalents, the figure somewhat understates the number of projects to enter the pipeline, given assumed efficiency increase.
- 6/ 53 Man-weeks per completed preappraisal job is average of time actually spent in 1973 and 1974. (See Annex 2, Table 7.) Our projection assumes a 25% increase in CP efficiency over 5 years.
- 7/ Assumes that on average 10% less time per project is spent if one includes dropouts.
- 8/ Net potentially usable time per weighted average of consultant and direct-hire man-year (at 50 and 40 weeks respectively) is 42 weeks. 68% of the 42 weeks, i.e. 28.6 weeks per weighted CP man-year is available for project preappraisal work. For 1976, therefore, with 2315 net usable man-weeks needed for project preappraisal and 28.6 man-weeks available for such work per CP man-year, the number of budgeted man-years required is 81 (i.e. $2315 \div 28.6$) -- with no allowance for vacancies or for down-time that is unusable for non-preappraisal activities.
- 9/ To convert the 68% of on-line time usable for preappraisal to a percentage of total budgeted time, subtract 6% to account for budgeted positions that remain vacant and 5% for unusable down-time. Then take 57% (68%-11%) of 42 man-weeks (23.9 man-weeks) and multiply by Line 4.

MANAGEMENT INFORMATION AND CONTROL: OUTLINE DESCRIPTION OF TIME REPORTING SYSTEM

1. OVERVIEW

Until recently the Investment Center's need for detailed time expenditure information on the activities of its professional staff was not great. Most staff worked substantially full-time on the assignments of their service. Exchanges of time were most unusual. Tasks were normally scheduled on a six-months time horizon. Activities such as staff development and training were handled on an ad hoc basis. Decisions about the size of CP were based mainly on intuition.

These conditions should change. Under special charging or trading arrangements, CP professionals will sometimes work outside the CP and vice versa. Project preappraisal work will be timetabled through to completion. Activities other than preappraisal (such as staff development and direct FAO support) will be formally recognized and planned, subject to man-year ceilings. The CP's future size will be heavily influenced by forecasts of the volume of projects needing CP assistance converted, via experience-based coefficients, into a demand for CP professional time.

In such an environment, CP managers will need accurate information on the expenditure of time -- as well as the achievement of deadlines -- against plans and programs. To monitor exchange arrangements, they will have to manage and monitor time as well as subordinates -- and the two will cease to coincide. Moreover, retrospective data on results achieved vs. time expended will provide a useful and steadily improving basis for building future budget projections on the basis of future results required.

In the following sections, the principal features of a system for meeting managers' needs for time expenditure information are described in terms of:

- A. Data required
- B. Processing of Data
- C. Management reports

As there is more work to be done on the detailed systems design (probably by FAO's Management Services Division in consultation with IC management and with the advice of Bank systems specialists), what follows should be viewed principally as illustrative.

II. THE TIME REPORTING SYSTEM: REPORTS AND PROCEDURES

A. Data Required

To produce the reports needed by Bank and CP managers so they can know how their resources are used, monitor time expenditure ceilings, and build towards meaningful workload coefficients, time expenditure data needs to be categorized by:

- . Activity (See Table 1 of this Attachment for "major" and "minor" work categories. Four of the former -- i.e. Pre-appraisal, Economic and Sector, Post Preparation and Professional Development -- have components which it will often be useful to total; together the first three activity categories constitute what we have defined as "net operating time");
- . User (i.e. Bank division and CP service, Other (specified));
- . Chargee (i.e. CP, Other (specified));
- . Basis of charging, if other user (i.e. Reimbursement to CP, time exchange, non-reimbursable, undecided);
- . Source of Time (i.e. specified CP Service, non-CP IC, Other (specified) and (at least for IC staff) staff member identification).

B. Processing of the Data

In the CP, the Operations Officers (acting in behalf of the service chiefs) would be responsible for assuring that time expenditure data was submitted accurately and on time. Staff would be provided a simple instruction containing the necessary codes and time recording groundrules.* The IC Program Coordination and Administration Office would screen the timesheets received from the Operations Officers as a last check before transmitting them to the Bank for computer processing.

Given the modest volume of data (encompassing approximately 100 man-years per year) and of required reports, it probably does not make sense to rely on the Bank's computer for all the data manipulation and report assembly that may be desirable. Using "intermediate" computer-produced reports in some cases (where special programming or coding is impractical), the IC's Program Coordination and Administration Office could manually generate some of the output information required by managers and, where useful, manually combine aspects of different machine-produced analyses. The precise manner and mix of machine and manual data handling will have to be worked out in detail based on joint Bank/FAO assessments (for each category of output report desired) of the relative ease of machine and manual production and manipulation.

C. Management Reports of Time Expenditure

The principal reports would display at least the following information, with each item showing data for the year-to-date and the most recent reporting period:

* Development of this instruction has been started by the Task Force and should be completed by FAO before the end of the year.

1. Report for Bank Division Chiefs and Assistant Directors (Quarterly)

- . Expenditures of net operating time totaled by project and broken out by minor activity code (see Table 1 of this attachment for code structure)
- . Divisional totals by major activity
- . Divisional grand total
- . Regional totals by major activity
- . Regional grand total
- . Regional post-appraisal (i.e. appraisal and supervision) as percentage of Regional grand total

2. Reports for CP Service Chiefs (Monthly)

- a) Time Delivered. Same as above for Regions served; also:
 - . Multi-Regional grand total and major activity totals
 - . Totals for direct FAO support, professional development, absences and overall grand total
 - . Professional development, direct FAO support, and post-preparation work each as a percentage of overall grand total
- b) Source and Application of Time
 - . By each non-CP unit, time delivered to the service broken down by basis of charging
 - . By each non-Bank, non-CP unit, time received from the service, broken down by basis of charging
 - . Service grand totals of delivered and received time by basis of charging

3. Report for Deputy Director, PPL (Quarterly)

- . Direct FAO Support and Professional Development time of designated Senior Specialists -- by man and assignment
- . Total Direct FAO Support by recipient unit
- . Total Direct FAO Support by service
- . Total Professional Development by service
- . Total time applied to specified assignments

4. Reports for Overall Bank and CP Management (Monthly)

- a) Time Delivered. For each minor and major activity:
 - . Grand CP total, total by service and Front Office
 - . Percentage that grand CP total for the activity bears to total of all CP time expended
 - . Percentage that service total for the activity bears to all time expended by the service
- b) Source and Application of Time
 - . By each non-CP unit, time delivered to CP, broken down by basis of charging
 - . By each non-Bank non-CP unit, time received from CP broken down by basis of charging
 - . CP grand total by basis of charging for all external units
- c) Special Reports. Special annual reports may be useful for special purposes -- to provide, for example, a basis for recruitment decisions. These might include reports of consultant time, exchanged time or total time by subsector, subsector time by Bank Region or CP service, CP time by UNDP special interest project, etc.

Assistance in assessing the time reports and initially determining where they indicate needs for corrective action would be provided to CP's top management by the Program Coordination and Administration Officer, to CP service chiefs by the Operations Officers, and to managers in the Bank by their own assistants and the CP Coordinator in CPS.

FAO INVESTMENT CENTRE
TIME REPORTING ACTIVITY CODES

ANNEX 5
Attachment 3
Table 1

MAJOR ACTIVITY		MINOR ACTIVITY	
Description	Major Code	Description	Minor Code
<u>Travel</u>: Time spent on travel should be reported against the activities and projects for which the travel is intended. If a trip involves work on more than one project, the travel time should be allocated against the projects roughly in proportion to the effort expended in the field on each project. No more than eight hours of travel should be recorded against a single day including days spent in authorized stopover, or, in lieu of stopover, for rest at the end of the trip.			
<u>Preappraisal</u>: All project-oriented preappraisal work; in the case of the World Bank this work will have been agreed with CPS or regions concerned.	PP	<u>Technical Assistance</u>: Work in relation to pre-investment programs, e.g., UNDP	TAS
		<u>Project Definition</u>: Project-specific work culminating in a Project Definition Report or equivalent.	PDR
		<u>Preparation</u>: Project-specific work culminating in a report to be used by the funding agency as the basis for loan appraisal or decision; the report may or may not be IC-prepared.	PRN
		<u>Combined Identification/Preparation</u>: To be used when no useful distinction can be made between the two activities.	IPR
<u>Economic and Sector</u>: Preappraisal work not related to a specific project.	ES	<u>Economic Work</u>: Preparation of economic reports, studies or memoranda.	ERA
		<u>Sector Work</u>: Preparation of sector surveys, reviews and studies.	SRA
		<u>Reconnaissance</u>: General project recognition work preceding Bank selection for project definition.	REC
<u>Post-preparation</u>: Operations not directly concerned with preappraisal.	PP	<u>Appraisal</u>: Appraisal of projects, whether IC-prepared or otherwise.	APR
		<u>Supervision</u>: Supervision and implementation assistance of on-going projects.	SUP
<u>Direct FAO Support</u>: Work primarily for FAO benefit which is uncompensated by reimbursement or time exchange.	FS		
<u>Professional Development</u>: The preparation/presentation of, and attendance at, courses/seminars/workshops directed towards the development of IC staff knowledge and professional skills; other work with these objectives.	TR	<u>Material</u>: Preparation/presentation of training material, e.g., lectures, guidelines, senior specialist assignments.	MAT
		<u>Study of training material</u>; attendance at lectures, seminars, debriefings or other meetings with a staff development objective.	STU
<u>Management and Administration</u>: Full time of supervisors, operations officers, professional administrative personnel.	MA		
<u>Absences</u>: All categories of time absent.	AB	<u>Leave</u>: Home, annual, or compensatory leave.	LEV
		<u>Holidays</u>: Official FAO holidays.	HDY
		<u>Sick Leave</u>	SIK
		<u>Unpaid absence</u> of any kind.	UNP
<u>General</u>: This code should be used only when none of the other above activities apply; specifically includes interviewing, staff meetings, personal time and non-operational general reading in work hours.	GE		

DIRECT FAO AND WB RELATIONSHIPS

I. ASSESSMENT

There are many direct links between FAO and the Bank, but the two institutions fail to exploit fully their areas of complementarity. The mutual and, in the ranks, rather pervasive lack of knowledge in FAO and the Bank of each other's work programmes greatly increases the chances of duplication and must cause the loss of numerous opportunities for creative synthesis. While it is true that in some cases (e.g. joint studies) speed and clarity can be a casualty of over-coordination, it is also true that where the desire to coordinate is thwarted by absence of knowledge or lack of the necessary mechanisms, likely results can be waste, friction and a loss of potential benefits.

We discuss below:

- A. Possible areas of increased coordination
- B. Institutional constraints
- C. The need for system

A. Possible Areas of Increased Coordination

While the task force has not made a detailed assessment of the potential complementarity of the two organizations' work programmes, it has identified the following non-project activities on which there is little collaboration at present, but appears to be room for more deliberate, routine interaction in the future.

<u>In FAO</u>	<u>In the Bank</u>
Perspective Study for World Agricultural Development	Mini-Link Model
Food Trade Statistics	National Accounts Statistics
Food Production Statistics	Income Distribution Statistics
Food Consumption Patterns	Development Research Program
Land Classification/ Resource Inventory	
Trypanosomiasis Control	
Technical Seminars	Meetings of Experts

B. Institutional Constraints

Because large institutions usually should not and cannot mold their organizational structures primarily around the purpose of coordinating with each other, their basic internal structures must be taken as constraints on the coordination problem. Nevertheless, small changes can sometimes be made that do not violate other considerations but have an important impact on coordination capacities.

C. The Need for a System

While there is much ad hoc and purely personal coordination today and numerous specific means for regularized contact on given subjects, there is in the non-operational areas an overall absence in each institution of a facility or system for:

- Keeping each generally informed of the other's activities
- Bringing to the attention of the right person at the right time relevant work done in the other institution
- Actually promoting collaboration or coordination when appropriate.

II. RECOMMENDATIONS

To improve collaboration between FAO and the Bank on non-CP matters:

- A. Make the IC's Deputy Director, PPL, responsible for helping stimulate direct FAO/Bank interaction.
- B. Designate Bank contact points in four ADG's (Assistant Director Generals') offices in FAO.
- C. Encourage FAO field staff informally to provide, on request, minor assistance to the Bank (and IC).

A. Make the IC's Deputy Director, PPL, Responsible for Helping Stimulate Director FAO/Bank Interaction

The task of bringing into the Bank knowledge of outside thinking, work and developments is one that in agriculture deserves special attention, given the priority of the sector and the amount of activity occurring in it. Because FAO --

the largest of the UN specialized agencies -- is becoming increasingly active in matters which also concern the Bank and conversely, it makes sense to have a specific assignment of responsibility for non-operational liaison between the two organizations.

We have recommended in Annex 4 that such responsibility be assigned to the proposed IC Deputy Director for Policy, Professional Development and Liaison. His other activities (as well as his proximity to the IC Director -- who chairs FAO's Interdepartmental Working Group on the CGFPI) will complement the liaison function. In Rome, he will be able to work with designated FAO contact points (see below); in Washington he will have the assistance of the CP Coordinator and the FAO Regional Office as well as access to the Director of CPS's Department of Agriculture and Rural Development. He should not seek to be a coordinator in the "exclusive channel" sense, but should be a catalyst to voluntary interaction, a point of consultation or "marriage broker" for staff of either agency who wish knowledge of the other's activity in a specific area. In general and as time permits he should:

- Keep staff throughout the Bank as fully informed as possible about all FAO activities of potential interest
- Bring to Bank staff members' attention in timely fashion -- i.e. before they begin a study or depart on mission -- FAO material of relevance, and the names of FAO staff (in Rome or the country) who may have useful knowledge of the subject
- Assure that the FAO liaison points (see below) are kept fully informed of Bank work of potential interest to FAO.

He would have no responsibility for Bank/CP operational coordination.

B. Designate Bank Contact Points in Four ADGs' Offices in FAO

FAO's ADGs in the Agriculture, Economic and Social Policy, Fisheries and Forestry Departments should each designate a staff member to be responsible (in addition to his other duties) for Bank contacts and liaison. This officer would work with the IC Deputy Director, PPL, to assure the exchange of work programmes, publications, special papers and the like and to see that his department's staff are fully aware of Bank activities of relevance. For FAO's Development Department, the IC Deputy Director, PPL, would be the contact point.

C. Encourage FAO Field Staff Informally to Provide, on Request, Minor Assistance to the Bank and IC

To the extent not incompatible with their primary assignments (in terms of deadlines, loyalties or confidentiality) FAO field staff should be encouraged to cooperate, on request, with the Bank and IC. They should do so with minimum formality in their personal capacities and not as representatives of FAO, the Bank, UNDP or the country government. A draft directive that could set the appropriate tone for this type of collaboration is presented as Attachment 1. The Bank should issue a complementary circular to its agriculture staff contemporaneously to advise them about the arrangements.

DRAFT FAO CIRCULAR

ASSISTANCE BY FAO FIELD STAFF TO THE WORLD BANK AND THE FAO/INVESTMENT CENTER

Introduction

A recently completed study of cooperation between FAO and the World Bank has highlighted the fact that FAO's large field-based store of experience and expertise in developing countries could more fully be brought to bear in the preparation, appraisal and implementation of projects financed by the World Bank. Where FAO and the Bank have collaborated in the field, both have usually been careful to keep the relationship at an informal level so as to avoid any problems of protocol.

Policy

In the interests of member countries, FAO has agreed with UNDP and the Bank to encourage greater collaboration in the field between FAO staff and Bank and IC missions, provided that the assistance requested by the Bank or IC and given by an FAO staff member does not conflict with his primary duties. Such a conflict might arise where the Bank-related work:

- Could jeopardize the timely completion of the staff member's own work;
- Is known to arouse national sensitivities which could prejudice the outcome of FAO-sponsored activities;
- Could endanger the confidentiality of materials or opinions to which FAO staff have had access in the course of their own work.

(The World Bank and the IC recognize that such conflicts may sometimes bar FAO field staff from giving the assistance requested.)

Procedures

1. Informal and Semi-formal Collaboration

Informal collaboration would be confined to the country of assignment of the expert and might involve requests to assist a World Bank or IC mission with the assembly of data, to accompany it on field visits, or to accept minor assignments, -- e.g. providing occasional advice to a local project preparation

team or, at Bank request, to the management of a Bank-financed project between or during supervision visits. In such cases, FAO staff would act as technical advisers to the Bank or IC but would remain wholly accountable to FAO and (where applicable) the Government of the host country. Normally, no reimbursement would be made by WB or IC for such assistance although where necessary UNDP through FAO could be reimbursed for per diem and travel expenses.

Staff members should use their discretion in deciding on the level of formality to be used in seeking Government clearance for the participation in such Bank-related activity if it lies outside their terms of reference. Any request for assistance from the Bank or IC which could cause problems of the type mentioned under "Policy," above, or would involve more than three man-days of work should be made (or, if not made, relayed) to FAO HQ. The latter will view favorably proposals for collaboration of this kind.

2. Formal Collaboration

Where comparatively large amounts of help are requested -- e.g. where the World Bank or FAO/IC requests the full participation of an FAO field staff member on a mission -- the Bank or IC accept responsibility for full reimbursement to FAO of costs (i.e. salary, expenses and travel). The FAO staff member becomes wholly accountable to the Bank or IC mission leader, must act as an individual adviser to him and cannot make any commitments on behalf of the host country or FAO. Authorization for such full-time participation in Bank or IC missions must be obtained in writing or cable form through the Operating Unit in FAO from:

- the FAO Project Manager;
- the UNDP Resident Representative (on advice of the SAA/FAO Country Representative) who will also certify that the Government concerned has no objection.

The World Bank may be able to assist in obtaining Government clearance for release of staff from their normal duties.

3. Communications with the World Bank

In order to improve the effectiveness of the contribution that FAO field staff can make to the World Bank's or IC's work, individual staff members are encouraged to correspond freely and

without formality with World Bank or IC staff provided that it is made clear that such correspondence is of a personal nature, implies no commitment on behalf of the host country or FAO, and does not jeopardize the staff member's primary assignment. Information copies of such correspondence should, where appropriate, be sent to FAO HQ and the Project Manager. Where an FAO position is stated, correspondence must be through formal channels.

UNDP AND WFP ASPECTSI. BANK "SPECIAL INTEREST" FAO-UNDP PROJECTSA. Assessment

Both the Bank and CP recognize that CP -- although designated as "watching agent" -- has had little impact on the approximately 30 FAO-executed UNDP projects in which the Bank has a declared "special interest". CP has not been involved in the selection of such projects and is not systematically apprised of the rationale underlying their selection. Moreover, what should be included in CP's role as "watching agent" has not been clearly agreed. Little time is devoted to the activity.

B. Recommendations

CP and the Bank need more systematic procedures for the selection and monitoring of "special interest" FAO-UNDP projects.

- With Bank advice, CP should develop proposed criteria for Bank "special interest" declarations.
- Based on those criteria, CP should routinely screen the FAO-UNDP projects to propose to the Bank (at the semi-annual Bank/CP reviews) "special interest" declarations as appropriate.
- CP and the Bank should agree, as a general matter, on the former's role with respect to Bank "special interest" projects and -- with respect to specific projects -- should agree where departures are anticipated from the general procedure (See Table 1 for our proposed procedure for IC monitoring).
- Annually, CP should report to the Bank on the status and work performed with respect to each "special interest" project, the average CP man-weeks expended per special interest project, and the time spent per Bank Region.

II. FAO-UNDP PROJECTS OTHER THAN BANK SPECIAL INTERESTA. Assessment

In total, there are approximately 600 ongoing FAO-UNDP large scale projects which cost roughly \$100 million/year. Roughly one third of them are "investment oriented". Whatever the

benefits of this FAO/UNDP technical assistance programme in the training of skilled manpower, accumulation of resource knowledge and creation of development ideas, the direct investment impact of pre-investment work has clearly fallen below reasonable expectations. By a recent staff estimate, the total investments directly resulting from FAO/UNDP pre-investment work have roughly equalled the cost of the pre-investment studies. While the specific ingredients of the estimate are arguable, there is no disagreement about the room for improvement.

(Despite the unimpressive overall record -- which, of course, could improve with time as more projects mature -- it should be noted that several FAO/UNDP projects have led directly to World Bank-financed projects (e.g. Yemen, Southern Uplands; Egypt, Tile Drainage) and many others have provided substantial inputs to support World Bank investment project preparation (e.g. Nepal, Terai Settlement; Brazil, Lower Sao Francisco Polders).

By funding one investment follow-up post in the IC, UNDP has acknowledged the need that exists to infuse a greater investment orientation into this important and potentially high long-term impact work. But it is clear that one man cannot adequately provide FAO's needed investment-oriented input to 200 on-going projects. Unfortunately, in our view, FAO's UNDP work today suffers from:

1. Inadequate investment-oriented intervention
 2. Inadequate investment follow-up staff.
1. Inadequate Investment-Oriented Intervention. At present, the application to FAO/UNDP's so-called investment potential projects of the investment-oriented expertise that -- at relatively minor expense and dislocation -- could greatly increase their potential developmental impact is too late, far too sparse and too unsystematized. As a result, important opportunities for magnifying FAO/UNDP's investment impact are being foregone.
 2. Inadequate Investment Follow-up Staff. It is not realistic to expect staff throughout FAO -- generally without an investment orientation or investment expertise -- to see that "investment potential" projects have the maximum investment impact compatible with development needs. Nor is it rational to rely on one qualified man in the IC

Service to accomplish this result for 200 such projects. Moreover, it is clearly impractical to expect the requisite infusion from staff located in UNDP's Regional Bureaux in New York which are not only remote from the executing agency and the project site but also lack the relevant sectoral expertise. Lastly, it is not normally possible to rely on project field staff for the requisite infusion, as most projects are too small to support a project economist and, even where this is not the case, a project economist would only in the rarest cases have a good knowledge of the requirements of major financing agencies.

B. Recommendations

To increase rapidly and to its fullest desirable extent the investment return from UNDP investment-potential projects (as well as other similar projects undertaken by FAO for bilateral donors through trust fund arrangements), it is necessary to:

1. Increase the staff devoted to investment infusion
2. Locate the staff in the Investment Center
3. Supply the needed infusions of investment orientation earlier and more systematically.

1. Increase the Staff Devoted to Investment Infusion. The IC central office has estimated that at least 6 man-years of HQ time are needed for an adequate infusion of investment expertise into the approximately 60 new investment-potential projects per year and the 200 that are ongoing. This estimate does not seem excessive, given the numerous points at which such infusion is desirable and the high possible returns. Whether the staff time other than field time (which now is chargeable to the projects) should be funded by UNDP (as with the present position), charged to the projects (perhaps through a flat fee or percentage), or borne by FAO as the responsible executing agency and recipient of the 14% UNDP management fee, is a question beyond the scope of this study. We do, however, recommend that the question be promptly resolved and that the necessary staff time be provided as soon as possible.

2. Locate the Staff in the Investment Center

- (a) Location. The additional staff effort we recommend should be located in the IC, but should consist of two full-time follow-up coordinators plus planned "slivers" (equivalent to perhaps 4 man-years per year) of the IC's nearly eighty investment-oriented specialists. In this way, the expertise brought to the task will have the full benefit of IC's critical mass; it will have sub-sector-specific knowledge in addition to the overall investment expertise that can make it most effective. Also, the constant and intensive exposure of IC people to the task of investment preparation and their continuing interaction with major financing institutions (Government, private and multi-lateral) will guarantee the focus that the task requires.

IC people -- whose principal job is to assist country nationals in preparing projects for investment -- should not find it difficult to assist FAO/UNDP people in the same task.

- (b) Management of the Infusion. It is most important, under our proposed "sliver" approach to the FAO/-UNDP investment infusion task, that the infusion effort be managed conscientiously and closely within IC so that the function does not become lost and the resources dissipated in the overall rush of other IC work. To assure this result, we have proposed having 2 UNDP Coordinators report to the IC Director. They would be responsible for selecting projects for investment infusion and arranging to have the infusions made at appropriate points. They would also assist personally as appropriate, in the early stages of UNDP programme formulation.

3. Supply the Needed Infusions of Investment Orientation Earlier and More Systematically. In Table 1, we display 18 steps in the UNDP project cycle and indicate the various points (there are more than 10 of them) at which an investment-oriented infusion should be considered. If properly staffed and managed, the utility of such an infusion should be evaluated at each such point in each investment potential project. The first opportunity occurs in the earliest pre-

programming stage, when project ideas are being considered by Governments, field staff and FAO's DDF. Then, infusions can be appropriate during the preparation of project documents and at the various key stages of implementation. Finally, a last contribution can be made through review of the draft final report. At any stage during the project's evolution, the IC might try to interest specific potential financing institutions in the project.

III. WORLD FOOD PROGRAMME (WFP)

A. Current Situation

1. WFP-FAO Links. WFP is institutionally separate from FAO, but FAO provides, on contract, the technical services to backstop the planning and implementation of WFP agricultural projects. FAO also provides personnel and administrative services. Aside from notable exceptions, IC involvement with WFP projects has been limited.
2. WFP Agricultural Projects. WFP prepares and approves some 50 projects annually, of which 20-25 are in the agricultural sector and 10-15 might be classified as having non-food investment implications. Although there is no systematic orientation of WFP projects towards non-food investment goals, several have already been associated with Bank follow-up investments (e.g. Egypt, Tile Drainage; Ethiopia, Resettlement).
3. Investment Potential. In contrast to the UNDP, WFP has no system for classifying its projects according to their non-food investment implications.
4. Investment Opportunities. Based on the present level of resources at the disposal of WFP, investment opportunities in projects assisted by it should be considerable. The Programme expects to commit approximately \$300 million during the year 1975, mostly for agricultural development projects of one or two years duration. In terms of quantities, WFP hopes to move at least one million tons of food. Among the new projects will be major schemes in Egypt (Land Reclamation, Settlement, Tile Drainage), South East Asia (Rural Rehabilitation Works, Construction or Improvement of Roads, Canals, etc.), Central America (Production of Basic Grains), Tunisia (Rural Cooperatives) and Pakistan (Watershed Management). In several of these

new projects as well as in smaller projects of a more pilot character, WFP food input could be complemented with World Bank or other investment. Likewise, World Bank projects could be examined with a view to identifying areas for complementary WFP food inputs. Institutional arrangements are needed whereby WFP-FAO-IC-WB are likely to identify suitable opportunities for collaboration at an early stage.

B. Recommendations

We recommend that possibilities be explored between WFP, FAO, IC and IBRD for instituting more formal arrangements both for bringing investment expertise to bear on WFP-assisted agricultural projects and to incorporate food inputs, where desired, in World Bank assisted investment schemes.

Given the nature of WFP's resources, it is likely that food will usually be a secondary input in what are primarily investment schemes, rather than the leading resource to be supplemented with non-food investment of the kind usually provided by the Bank.

C. Possible Procedures

1. WFP Projects. WFP (Project Management Division) should consider as a matter of normal project processing any possibility for non-food investment, as should the WFP/FAO Liaison Unit which receives all agricultural project requests for technical scrutiny. Proposals for non-food investment should be screened by IC who would then take the necessary follow-up (contact potential investors, arrange for participation in appraisal missions, etc.). In cases in which WFP projects are designed as pilot schemes for potentially larger non-food investment programmes, investment orientation could be provided by arrangement with the IC, as in the case of UNDP projects. A system to enable financing institutions including the Bank to declare "special interest" in these projects might also be introduced.
2. Bank Projects. When CP becomes aware of proposed Bank agricultural projects which might profit from complementary food inputs, it should bring them to the attention of WFP.

3. Institutional Arrangements and Funding. Arrangements for staffing and funding of IC inputs into WFP projects should be negotiated between WFP and FAO. For Bank "special interest" WFP projects, arrangements similar to those proposed for "special interest" UNDP projects should be instituted by CP with Bank agreement.

PROPOSED IC ROLE IN FAO/UNDP PROJECTS

<u>Phase</u>	<u>Step</u>	<u>Action by FAO</u>	<u>IC Role</u>
<u>Formulation</u>	1	Government and FAO Technical Divisions generate project ideas	Propose projects; review project proposals for IP; suggest modifications
	2	FAO (DDF) assembles pipeline ideas; assists Government and UNDP to define projects	Comment on overall investment implications. Indicate operational implications for investment orientation
	3	UNDP Res.Rep. negotiates pipeline with Government, and develops multi-sectoral country programme, classifying projects for IP	
	4	UNDP Res.Rep. forwards draft country programme to FAO (and Banks) for comment. FAO (DDF) seeks Divisions' comments. Banks indicate "special interest"	As for 2 (above)
	5	UNDP Res.Rep. finalises country programme	
<u>Approval</u>	1	Government submits country programme as T/A request to UNDP HQ	
	2	UNDP presents country programme to its Governing Council	
	3	After approval the document is accepted as a joint Government/UNDP programme	
	4	Executing agencies are assigned responsibility for preparing project documents. For small-scale projects this is a desk elaboration of the country programme description. For large projects, FAO may provide preparatory assistance (6-12 months) for detailed planning in the field. Project documents may include an IPPA	DDF involves IC in preparing project documents including IPPA. A field visit may be necessary. IC may alert financiers
	5	Project documents are signed by UNDP, FAO and Government. FAO (AGO) assumes operational responsibility	
<u>Implement- ation</u>	1	FAO (AGO and Technical Divisions) select and appoint project managers	Advise on selection if IPP project
	2	Project staff are briefed at FAO HQ	Brief IP project managers/economists
	3	Bi-annual and technical reports are submitted by project to FAO	May review for IP projects
	4	Project staff visit Rome and IC missions visit project country (for other purposes)	AGO may advise IC to contact project
	5	UNDP mounts <u>ad hoc</u> or mid-term review mission to project	Participation desirable for IP projects to set framework for IPA report
	6	Project submits draft final report for FAO review	Comment and propose adjustments
	7	Project submits final report	Contact financiers
	8	Occasionally UNDP mounts end-of-project, follow-up planning missions	IC participation desirable

BUDGETARY AND STAFFING IMPLICATIONS

The growth rate of CP will depend on the demand for its services, trends in its productivity and other factors outlined in Paragraph 91 of this report and in Attachment 2 of Annex 5.

Important to the growth rate will be the extent to which productivity gains are realized directly through an increase in CP output per man-year or indirectly through an improvement in the quality of CP's work that brings about long-term productivity gains for the Bank and FAO. We have recommended the latter option and detailed some of the relationships in Paragraph 90 of the report.

Also important to gauging the impact of our recommendations on CP's size will be the relationship of "down-time" to the professional development and direct FAO support activities we have proposed. Although bus-stopping is more economical for the CP than paratrooping -- as the missions tend to be smaller and CP's report writing burden lighter -- it could (because of travel constraints) raise the level of down-time.

If the current and likely rates of operationally unusable down-time exceed the time needed for professional development and FAO support, these activities will entail little additional cost or growth. On the other hand, to the extent the time exchanges we have proposed effectively convert down-time to operationally usable time -- by yielding a future FAO mission participant in place of a currently idle CP staff member -- the proportion of down-time available for professional development and direct FAO support will shrink.

Because of the problems of time reporting that have been described, we (and CP) have not been able accurately to measure the level of down-time. Consequently we cannot confidently gauge the additional cost, if any, of concerted professional development and direct FAO support. We can, however, hypothesize that if the former is properly done it will (in addition to improving quality) increase productivity by more than enough to offset its entire cost. The latter, if properly done, should yield immediate benefits to FAO well in excess of the total cost to CP and -- to the extent it increases the frequency with which FAO activities create a practical basis for investment -- will also yield major long-term benefits to the Bank and, of course, to the member countries of both organizations.

To suggest illustratively some of the factors and magnitudes that might be involved, we attach a table of some of the more significant staffing and productivity implications of this report. It assumes the present volume of work and level of CP budget.

Even with a constant budget, the staff size of CP could expand significantly. Time exchange is likely to cause an increase in CP's staff at the expense of its consultant budget. UNDP, World Food Program and Trust Fund investment infusions will result in staff increases which are financed outside the CP budget.

Given all the factors and constraints that exist and the time lags implicit in the budget process, our guess would be that the CP's budgetary growth rate in the next several years would fall between 5 and 10 percent annually (in constant prices). The growth rate of staff would exceed that -- by a margin dependent on the growth rates of time exchange and reimbursed investment infusion.

Overall, we would expect that there will be significant increases in the demand for and scope of CP service, in the productivity of CP, and in the quality and impact of CP work.

SOME BUDGETARY, PRODUCTIVITY AND STAFFING IMPLICATIONS OF MAJOR RECOMMENDATIONS*

CHANGE	RESULTS	ESTIMATED STAFFING IMPACT ON CP**	COMMENTS
1. Time exchange with FAO and non-CP IC	CP staff increasingly engaged in non-CP work; greater likelihood of FAO men on CP missions	+ 4	No net additional cost despite estimated need for from 3-6 new positions. Positions financed from CP consultant budget and FAO reimbursements; FAO staff input offsets reduced CP usage of consultants.
2. Additional Deputy, CP Operations and Secretary	More top level management time to provide leadership, liaison, quality control, etc.		No immediate cost if Director assumes these responsibilities at the expense of his external duties
3. Senior Specialists (25% of perhaps 8 men)	Improved professional development and technical leadership will help the staff mature faster and become more productive and effective. The production time for policies, guidelines, etc. should be more than offset by resulting reduction in report writing and review time, more useful reports.	+ 2	
4. Emphasis on professional development		- 2	Assuming resulting 5% decrease in overall report writing time
5. More guidelines, models, formats		- 3	Assuming resulting 5% increase in overall productivity.
6. More routine project definition by CP prior to preparation	Small number of additional missions and reports; briefer reports, but easier more efficient preparation	+ 1	Perhaps savings to the Bank from avoidance of CP "false starts," misdirected effort; reduction in post-preparation "drop outs."
7. Issues Paper replaces BTO	Early Bank input will reduce the likelihood of CP's work being subsequently altered or rejected	- 2	Assuming resulting 5% increase in productivity of report writing
8. Yellow Cover Clearance by Bank eliminated	Reduction in lapsed time from report completion to country receipt and in CP waiting and revising time.	- 1	Savings for Bank of perhaps 1 man-year (after subtracting time to comment on Issues Paper)
9. More bus-stopping	Smaller more frequent missions, multi-project missions, but countries assume much of report preparation burden	- 3	A guess, as rate of increase cannot be predicted but productivity with bus-stopping appears to be more than 30% higher (See Annex 2, Table 1)
10. Participation in Bank appraisal and supervision missions (in lieu of Bank staff or consultants)	Time lost to CP work somewhat offset by more effective identification and preparation. (Present 7.75 CP man-years per year should be more evenly distributed among CP staff). Gross requirement is 10-11 man-years, i.e. a net increase of 3 man-years.	+ 3	No supplementary cost to WB or FAO -- although total cost should be shown in CP budget -- as CP staff replace Bank staff or consultants and WB pays full cost of CP staff on Bank missions. Probable long-term quality and productivity gain from resulting professional development, increased convergence of Bank and CP views.
11. Direct FAO Support	Working group, seminar participation; preparation and review of papers; advice and assistance	+ 2	Benefits accrue mainly to FAO, but also -- in the long term -- to Bank through increased project recognition and FAO investment impact. No net direct cost to FAO. Cost to CP depends on relation to down-time, the present level of which is unknown.
12. UNDP and WFP infusion	Increased investment pay-off far in excess of additional input	+ 6	Possible 6 additional man-years in IC, but they would be funded externally -- i.e. by UNDP, WFP, or FAO.
13. Third service chief	Improved service management	+ 1	The productivity gain from enhanced managerial capacity will more than offset the additional overhead cost.
14. Improved administrative support services (including creation of 3 Operations officers)	Reduced administrative burden on managers, faster word processing, better use of available data	- 3	3 junior professional and 7 new GS positions offset by reduction of 9 present GS posts (working paper furnished separately to IC management), release of service chief time for non-administrative tasks. 5% productivity increase likely from improved support and reduced administrative distraction of managers.
15. Improved management systems -- i.e. project generation planning, time-tableing, time reporting, programming, budgeting	Better resource utilization and improved Bank/CP relationships	+ 1	The cost of planning and coordinating systematically probably is less than the present cost of improvisation. The cost of good time reporting is additional, but compensated by resulting increases in the capacity to plan, manage and control.
Total increase in professional staff (excl. Item #12)		0	

* This table is highly conjectural and should not be regarded as anything more than a suggestive aid to contemplation of some of the productivity and cost implications of our principal recommendations.

** Based on present size and workload.

BASIC REFERENCE DATACONTENTS

	<u>Page</u>	<u>Page</u>
I. WHAT CP DOES	2	
II. APPROACHES TO PROJECT PREPARATION WORK	7	
III. BANK/CP OPERATING PROCEDURES	12	
IV. INTERNAL MANAGEMENT OF THE INVESTMENT CENTRE	14	
V. CP STAFFING AND COSTS	16	
VI. CP RELATIONS WITH THE REST OF FAO	18	
VII. FAO/BANK RELATIONS NOT INVOLVING CP	21	
VIII. THE UNDP DIMENSION	23	

TABLES

1. CP Mission Days by Activity as a Percentage of Total CP Mission Days for Each Region (FYs 70 - 74)
2. Distribution of Bank Agriculture Effort (Staff Man-Weeks) and CP Effort (Mission Days) Among Regions by Activity
3. CP-Assisted Projects Compared to all Agricultural Projects Approved by the Bank
4. Percentage Distribution of CP Mission Days by Subsector Within Regions
5. Percentage Distribution of CP Mission Days by Region Within Subsector
6. Each Region's CP Mission Days as a Percentage of World-wide CP Mission Days for Each Activity (FYs 70 - 74)
7. Comparison Between Bank and CP Agricultural Staff Manpower
8. Source of CP staff Hired from 1970 through 1974
9. Comparison Between Cost of Bank and CP Man-years
10. Bank/CP Travel Cost Comparison
11. Analysis of CP Questionnaire Responses
12. Summary of Formal IC/CP - FAO Relationships
13. Summary of Formal FAO-World Bank Relationships

BASIC REFERENCE DATA

1. WHAT CP DOES IN RELATION TO BANK ACTIVITIES

Primarily, CP helps developing countries identify and prepare projects that the World Bank can then appraise and finance.

In the following, we summarize quantitatively:

- A. The relationship of Bank and CP effort
- B. CP's impact on the Bank's approved lending program
- C. The distribution of CP mission days by subsector and within Regions
- D. The distribution of CP subsector effort among Regions
- E. The distribution of CP mission days among activities
- F. Other activities

A. Relationship of Bank and CP Effort (Tables 1 and 2)

1. While in FY 1974 only 18% of Bank agriculture time was consumed in preappraisal work, 84% of CP's mission days were for pre-appraisal -- 50% for preparation, 34% for identification/reconnaissance. The Regional distribution of these efforts was as follows:

	<u>CP Mission Days for Preappraisal</u>		<u>Bank's Preappraisal Time</u>
	<u>Preparation</u>	<u>Ident./Reconn.</u>	
South Asia	43%	16%	15%
East Asia	26	20	17
EAF	11	9	22
EMENA	9	21	19
WAF	6	1	6
LAC	4	34	21
	99	101	100
All Regions' % of Total	50	34	18

2. WAF's low usage reflects its small share -- 6% -- of total Bank preappraisal effort and the extensive use of FAC by WAF countries. Their use of CP is expected to increase as the proportionate reliance on FAC decreases.
3. EAF's use is held down by the presence of Regional Mission in East Africa, Nairobi; but is still significant in forestry and in francophone countries.
4. LAC's low usage for preparation and high usage for identification/reconnaissance in FY 1974 may reflect the technical capabilities of many countries of the Region, but also is at variance with the five year totals.
5. Economic and sector work consumed 11% of Bank effort and 2% of CP's mission days in FY 1974.
6. Appraisal work consumed 12% of CP's mission days and 34% of that was for the S. Asia region.

B. CP's Impact on the Bank's Approved Lending Program (Table 3)

1. Of the 164 agriculture projects approved by the Bank's Board from July 1972 through February 1975 CP had assisted in the preparation of 65, (37%) --

	%	No.
EMENA's	61%	17
South Asia's	52	12
LAC's	46	12
East Asia's	30	7
EAF's	25	8
WAF's	23	9

Because many of the non-CP-assisted projects in the period were repeaters or prepared through "piggy-backing", the 37% figure significantly understates CP's impact on new project work in agriculture.

2. By subsector the pattern varies widely:

Fisheries	86%	
Irrigation	51	
e.g. South Asia's		100%
EMENA's		83
East Asia's		14
Livestock	50	
Area/rural development	19	
e.g. South Asia's		100
EAF and East Asia's		0%

3. The overall trend of CP's contribution is upwards in South Asia, downwards in East Asia and Africa; unclear in EMENA and LAC.

CONT....

C. Distribution of CP Mission Days by Subsector and Within Regions (Table 4)

1. Most CP mission days in FY's 1972-74 were used in:

Area/rural development	27%
Irrigation	18
Forestry	10
2. In LAC, 56% of CP's mission days for the Region were for area/rural development in the three year period, 80% in FY 1974.
3. In East Asia, 22% were for area/rural development in the three years; 43% in FY 1974
4. EMENA's and South Asia's largest shares in FY's 1972-74 were for irrigation -- 38% and 23% respectively.

D. Distribution of CP Subsector Effort Among Regions (Table 5)

1. In area/rural development, the greatest share of CP mission days has consistently been devoted to LAC -- 45% for FY's 1972-74.
2. In irrigation, EMENA had a disproportionate share (76%) in FY 1973 as did South Asia (56%) in FY 1974; East Asia's usage has been negligible.
3. In forestry, South Asia used more than half (71%) in FY 1972 and 1973 (61%); East Asia (37%) and EAF (40%) were heavy users in FY 1974.
4. In education, EAF has been a disproportionately heavy user -- 27% for FY's 1972-74; South Asia's use has been erratic -- 66% in FY 1974, 0% in 1973.
5. Credit days went 72% to LAC in FY 1972 and 92% in FY 1973 but dropped to 7% in FY 1974.

E. Distribution of CP Mission Days among Activities (Table 1)

Over the past five years, CP mission days have been expended as follows:

	<u>FY '70 - '74</u>	<u>FY '73</u>	<u>FY '74</u>
Preparation	55%	67	50
Ident./Reconn.	25	16	34
Appraisal	9	8	12
Economic/Sector	8	7	2
Supervision	1	1	1
Other	2	1	2

1. Regional usage patterns have varied widely from year to year; LAC, for example, used 78% of its for identification/reconnaissance and 13% for preparation in FY 1974, while in FY 1973 the proportions were reversed -- 12% and 78% respectively.
2. Usage patterns over time within each activity also fluctuated widely in the larger regions (Table 6):

	<u>Share of CP Mission Days on Preparation</u>			<u>Share of CP Mission Days on Identification/Reconnaissance</u>		
	<u>FY '74</u>	<u>'73</u>	<u>'72</u>	<u>FY '74</u>	<u>'73</u>	<u>'72</u>
East Asia	26%	9%	12%	20%	35%	6%
South Asia	43	26	28	16	21	0
EMENA	9	26	39	21	19	16
LAC	4	30	11	34	19	66

F. Other Activities

CP also is responsible for:

1. Overseeing FAO-executed UNDP-funded projects in which the Bank has declared a "special interest"
2. Advising the Bank on request -- both directly and, as appropriate, on FAO's behalf -- with respect to policy statements issued, needed, or in preparation
3. Assisting the Bank in locating suitable FAO staff for special assignments
4. Formulating Project Preparation Guidelines
5. In general, but as one of many channels, helping assure that the Bank and FAO become more fully aware of each other's activities, concerns, resources and constraints.

II. APPROACHES TO PROJECT PREPARATION WORK

In this section on approaches to project preparation work we discuss in turn:

- A. Sources of preparation assistance
- B. Preparation for preparation work
- C. The preparation task
- D. Methods of assisting preparation
- E. Relationships during the preparation process

A. Sources of Preparation Assistance

1. Country Responsibility. Unlike appraisal, which is a non-delegable Bank responsibility, preparation is properly and primarily a country responsibility.
2. Assistance Required. Occasionally projects suitable for Bank appraisal and financing have arrived from countries without any prior form of external assistance, but usually some form of preparation assistance is required.
3. Numerous Sources. Preparation assistance can be funded or provided from numerous sources:
 - (a) Bilateral donors (e.g. FAC, USAID)
 - (b) UNDP
 - (c) A UN specialised agency
 - (d) Consultants - either separately, in conjunction with another source or through "piggy-backing" on an existing Bank-financed project
 - (e) The Bank itself (whether from Washington or a field post)
 - (f) A "cooperative program" between the Bank and another agency

B. "Identification" Work

Before the Bank can consider measures towards the provision of needed preparation assistance, it must identify a potential project which it might be prepared to finance.

1. "Identification". The term "identification" is usually used loosely (with some resulting confusion) to encompass three activities:
 - (a) Project Recognition. Recognition of a project idea as potentially viable and consistent with country desires
 - (b) Project Selection. Selection of a project for preparation (and perhaps pre-preparation) work with a view to Bank financing -- because it seems to be the best available combination of intrinsic merit, country support, and consistency with Bank assistance strategies
 - (c) Project Definition. Development of a selected project idea to the point at which it is prudent and efficient to commit the level of resources necessary for detailed preparation.
2. Purposes of Project Definition. The purposes of project definition are to:
 - (a) Reach a decision that further detailed preparation work is justified
 - (b) Identify major issues, options, and alternatives and make some initial choices.
 - (c) Establish a broad range of financial magnitude for the project
 - (d) Establish a preliminary preparation program.
3. Bank "Identification" Systems. Reconnaissance missions and country sector work are routine means of project "recognition", but much recognition also occurs through other means (such as supervision work). Project "selection" is often a result of country economic sector work and Bank country programming systems. "Project definition", the least systematized of the three, is sometimes hastily or superficially done and sometimes not done separately at all -- i.e. merged with the detailed preparation work.
4. Pipeline Planning. Attention paid to the planning of selection, project definition and preparation work varies widely from WB division to division; there is no Bank-wide or agriculture sector-wide system for planning project generation work and no consistent pattern of assigning responsibility within divisions to see that it gets done.

C. The Preparation Task

1. Creative Aspects. Although the judgments made during preparation are not irrevocable (in contrast to those made at appraisal), preparation work is widely considered by Bank staff to be the most difficult and creative aspect of the project cycle.
2. Preparation's Purpose. The purpose of project preparation (in the Bank context) is to develop a project concept to the point at which it is ready for Bank appraisal and -- with minimum change -- subsequent approval for financing. This ideally requires development of a project design that satisfactorily resolves all major technical, economic, financial and managerial issues (although -- because of broader implications which may not be susceptible to resolution until appraisal -- the latter may sometimes have to be addressed through options).
3. Purposes of Preparation Assistance. The purpose of preparation assistance is not only to enable a country to develop a suitable project for financing and to present in its loan application the required technical, economic and financial justifications, but also to:
 - (a) Assure that the country fully understands the project
 - (b) Help bring about full country commitment to the project, and
 - (c) To the extent feasible, leave the country better able in the future to prepare its own projects.

D. Methods of Assisting Preparation

1. Three Methods. The joint task force found it useful to distinguish among three methods of assisting countries in project preparation. In practice, the differences are differences of degree.
 - (a) Paratrooping. Typically, the "paratroop-style" preparation assistance team will spend four weeks in the country, summarize their early findings to key country officials at the end of the visit and then return to HQ to write the preparation report.
 - (b) Bus-stopping. The "bus-stopping" approach typically entails an initial visit to map out work to be done by a local preparation team, followed by periodic visits to review progress and provide assistance and perhaps by a final visit to help with "packaging" a report written principally by the local team. A variant of "bus-stopping" could be termed "shuttling" in which the visits (often from a regional field post) tend to be much shorter and far more frequent.

- (c) Squatting. Typical of bilateral donors and UNDP, the "squatter" approach entails residence in the country of an expatriate who sometimes may have technical assistance duties beyond preparation assistance.
2. Present Patterns. For the 60 projects whose preparation was completed in calendar years 1973 and 1974, CP averaged two missions per project. 32% had one mission, 48% two missions, 12% three missions and 8% had four or more. (See Table 1 of Annex 2) From the World Bank's regional mission in Nairobi, it is not unusual to have six or more missions to help with preparation. Of FAO's UNDP-funded projects involving "squatters" overseas, approximately 25% are estimated to entail investment potential.
 3. Consensus. There is wide agreement that:
 - (a) If the speed of project preparation were an overriding consideration the paratroop approach would be best
 - (b) Paratrooping sometimes is the only feasible approach
 - (c) Speed of preparation should only in rare cases be a paramount consideration -- given the possibilities for advance planning and the disadvantages of cutting preparation corners
 - (d) Bus-stopping tends to improve country understanding, commitment and capabilities -- and hence implementation.

E. Relationships During the Preparation Process

1. Prime Responsibility to Country. No matter who is providing it (e.g. a Bank resident mission, consultant, CP) or what method is used, Bank-related preparation assistance is primarily and properly a service to and for the benefit of the developing country. While the pressures and constraints inherent in the objective of developing a project that meets Bank standards -- combined with the knowledge that the Bank is at least partially financing the preparation assistance effort -- may sometimes create an apparent duality of accountability, CP and Bank staff are close to unanimous in acknowledging the prime and immediate responsibility to the country.

2. Fiduciary Role. Responsibility does not mean subservience. As in any fiduciary relationship, the provider of the service (e.g. CP) is responsible for exercising independent professional judgments -- i.e. for resisting pressures to do or recommend things which are considered unsound -- and, in the case of CP, for rendering advice as to what the Bank may or may not find acceptable.
3. Bridging Procedure. A common procedure, widely approved in both institutions, is for one member of the CP team that was involved in preparation assistance to be present during the first week of the related appraisal mission, to help the country describe and defend the project to the Bank team and to accelerate the Bank team's comprehension of alternatives and issues.

III. BANK/CP OPERATING PROCEDURES

In this section, we briefly outline present Bank/CP operating practices and procedures affecting:

- A. Country economic/sector work
- B. Project "identification"
- C. Project preparation assistance
- D. Project appraisal and supervision

A. Country Economic/Sector Work

CP's occasional participation in country economic/sector work is through provision of staff members to Bank-led missions (or facilitating arrangements for FAO staff to participate) except that in a few instances, CP has mounted and led sub-sector analyses (e.g. Forestry and Livestock in West Africa).

B. Project "Identification"

1. Project Recognition. CP occasionally participates in Bank-led reconnaissance missions and sometimes leads its own on a sub-sector level of detail (e.g. Irrigation in Ghana, Fisheries in Indonesia.) Also, it can lead and conduct overall agricultural reconnaissance missions (as in Turkey).
2. Project Selection. This is a non-delegable Bank function -- there is no formal role for CP except to the extent that selection decisions may be implicit in reconnaissance and sub-sector analyses.
3. Project Definition. CP frequently does project definition work, usually as a prelude to its own preparatory work. The so-called identification reports are subject to the same procedures as preparation reports (see below), except that the pre-preparation Bank/CP dialogue tends to be somewhat fuller where there has been a project definition stage than in those cases where the stage has been omitted. Project definition work, however, frequently does not result in a comprehensive report.

C. Project Preparation Assistance

Essentially, the normal preparation assistance procedure is as follows. (Further quantitative data are provided in Tables 11:6 and 11:7.)

1. Pre-mission Procedure

- (a) CP prepares draft terms of reference at Bank request (often made in the CP/Bank semi-annual coordination meeting).
- (b) Bank clears or comments on terms of reference and approves staffing; mission does preparatory work in Rome (average of 4.5 man-weeks, 2.2 weeks lapsed time); mission departs. (On average, a CP mission has 5 members, 1.3 of whom are consultants. An average CP staff member goes on 3.2 missions per year.)
- (c) If the mission is for LAC, it will usually stop in Washington for consultation en route; if it is to another region, Washington consultation may still occur in special cases. (Prior to or during each first CP mission on a sample of recent projects, there was mission leader/Bank dialogue in 96% of cases; when there was such dialogue, 58% was "face-to-face").

2. Post-mission Procedure

- (a) When the mission returns (usually via Washington from LAC) it prepares a Back-to-Office Report which is circulated in the CP with a copy to the Bank. Where no preparation report is necessary, usually a "Back-to-Office-and-Full-Report" is prepared. (The field work -- including Washington stop-over as applicable -- lasts an average of 4.6 weeks).
- (b) Occasionally (e.g. where there may be particularly interesting issues), the CP will hold a "debriefing" session for its Rome staff, based on the Back-to-Office Report.
- (c) Occasionally, the Bank will comment on the Back-to-Office Report -- especially if it has highlighted key questions concerning which guidance is sought.
- (d) Where, as is usually the case, there is to be a CP preparation report, the mission writes it. (The report writing, through release to the Bank of the yellow cover, consumes an average of 8.1 weeks or 24 man-weeks).

IV. INTERNAL MANAGEMENT OF THE IC

We outline in turn IC's present:

- A. Structure
- B. Work programming, scheduling and control
- C. Staff development
- D. Administrative support

A. Structure

Located in the Development Department of FAO, the Investment Centre consists of the FAO/WB Cooperative Programme which has two regional services (Service I covers Europe, the Middle East, North Africa and Latin America; Service II covers West Africa, East Africa, South Asia and East Asia/Pacific), and a third unit which serves cooperative programs with IDB, AsDB and AFDB and manages the "Bankers' Programme" *. Each CP Service is headed by a Service Chief and has a position for a deputy chief. These Services have 31 and 29 on-board professional staff respectively. Bank approval is required for all new appointments. The IC Service unit is headed by a Coordinator and has 7 professionals on board at HQ as well as several outposted staff. The "front office" of the Investment Centre has a Director, a Deputy Director, and two Senior Advisers, one of whom is now engaged primarily on work for CGFPI. The Programme Coordination and Administration Office has 3 professionals and consists of four sub-units: Documents, Personnel, Budget and Finance, and Registry (files).

B. Work Programming, Scheduling and Control

Essentially, CP's work programming and scheduling are driven by Bank needs. Semi-annually, the CP Service Chiefs and Director confer in Washington with Bank Assistant Directors and Division Chiefs (in the presence of the CP Coordinator) to discuss the future work to be done by CP. Decisions about what CP will do and when are unavoidably as much a result of the anticipated availability of particular sub-sector specialities (with the right language competence) as of overall more abstract criteria. Travel schedules are then produced by CP each month by project, and staff member. Changes (mostly Bank requested) are frequent. No project timetables as such are printed. Financial control is exercised using the FAO-wide system. The Bank's time reporting system is in place but not used (or not usable) for management purposes.

* The Bankers' Programme involves 15 national development banks and 16 national and private financing institutions in developed countries.

C. Staff Development

For professional staff development, reliance is placed primarily on on-the-job training during missions. There are also occasional seminars, formal discussion meetings, debriefing sessions and -- to a diminishing extent -- semi-formal meetings of staff members with the same technical speciality. There is no formal orientation for new employees of the IC, no employee performance evaluation system and no conscious planning for staff development.

D. Administrative Support

1. By FAO. Under its agreement with the Bank, FAO-proper provides to the IC space, personnel services, financial services, reproduction services and office maintenance, supplies and equipment. Space is extremely limited and report reproduction facilities are primitive for the work volume involved.
2. Within the Services. Secretaries are provided to the services on a ratio of about one secretary for two professionals. CP's services also have statistical assistants; 1 in Service I, 2 in Service II.
3. Program Coordination and Administration Office. The IC's Program Coordination and Administrative Office is responsible for travel arrangements, recruitment, budget and accounting, time-reporting coordination, files, report production and the Documents Unit.
4. Front Office. Reporting to IC's Director are a Reports and Liaison Officer and a cartographer.

V. CP STAFFING AND COSTS

A. Staffing

1. Size. At the end of 1974, CP had 69 professionals (75 authorized) and 47 secretarial/clerical staff (53 authorized). Of these, the "Program Coordination and Administrative Office" (PCAO) had 3 professionals and 12 general services. In addition, the Investment Centre "Service" (now called "Central Office") had 10 professionals (2 -- 4, as of May 1, -- worked with IDB in Washington, 1 with the Africa Development Bank in Abidjan (2 as of May) 1 worked on the Asia Development Bank, 1 on UNDP activities, 1 on the Bankers' Programme and one report and liaison officer) and 6 general service staff (of which 3 were working in the PACO and included in the PCAO general services total).
2. Growth of CP. From July 1971 to December 1974 CP staff grew by 19% (from 58 to 69) while Bank agricultural staff grew by roughly 70% (from 120 to 205). In the same period, total CP man-years -- staff members plus consultants plus CP funded FAO man-years -- grew by roughly 23%. The proportion of total CP-furnished man-years (excluding consultants) to total Bank agriculture staff declined from 53 to 37. (See Table 7)
3. Origin of CP staff. In the 5 years from 1970 through 1974, CP recruited 52 people: 46% came from FAO, 35% had been consultants, 19% had some other background. (See Table 8.) Their median age at recruitment was 41 years. The average tenure of today's CP staff members is just under 5 years, though nearly one in five has been in CP since its inception. Over the past 4 years, the level at which CP has "borrowed" FAO staff (on a reimbursable basis) has stayed at approximately 7 man-years per year.

B. Costs

1. Cost Sharing. The Bank/FAO 75%/25% cost sharing arrangement for CP does not fully describe the relative cost of CP staff to the Bank. At FY'74 price levels, a man-year of CP staff time cost the Bank in total 36% less than a man-year of Bank projects staff time; 20% less than a man-year of Bank consultant time. (Bank : US\$61,100/man-year; CP : US\$39,120; consultant : US\$49,100). The CP man-year cost FAO a total of US\$18,325, a figure that would increase by about US\$6,000 if the office space occupied by CP were not provided free by the Italian Government* (see Table 9).
2. Travel Cost. Because Rome is closer to most developing countries than Washington and FAO's travel rules somewhat different than the Bank's, there is a further significant cost consequence. If (based on 1974 data) CP's mission travel, which is more extensive per capita than the Bank's, had been done from Washington by Bank staff, the total additional annual cost would have been about US\$403,000 or roughly US\$5,000/man-year -- see Table 10. (It is true that the difference would have been

* The IC is likely to be relocated soon in a separate, rented building.

reduced slightly be a decline in CP/Bank Rome/Washington travel for coordination purposes, but this could well have been offset by an increase in the need for such travel to help coordinate the Bank and FAO proper in the absence of CP).

VI. CP RELATIONS WITH THE REST OF FAO

There is significant interaction at all levels between CP and the rest of FAO, but it is usually based on personal relationships (as more than half of CP's staff come from FAO). Little of it is planned or systematic and most of it is for CP's benefit. We explored the nature of such interactions through a questionnaire to CP staff. (The aggregated responses are displayed in Table 11.) Below, we summarize:

- A. Director's contacts
- B. Working Group participation
- C. Staff contacts
- D. Contacts in the field
- E. Contacts by Non-CP IC

A. Director's Contacts

IC's Director participates fully in the management of FAO. He is a member of The Director-General's Policy, Planning and Advisory Board (PPAB) and has recently been appointed Chairman of FAO's Inter-Departmental Working Group for the CGFPI.

B. Working Group Participation

- 1. Inter-Divisional Working Groups (IDWGs). CP belongs to 10 IDWGs and Steering Committees (See Table 12), but is regarded by FAO as a reluctant participant except when there is an explicit investment objective (e.g. the Pulp and Paper Study). The CP contribution -- partly because of extensive travel -- also suffers from a lack of continuity of representation.
- 2. Joint Groups. "Joint Groups" between the IC and the Fisheries and Forestry Departments have been set up to act as task forces to identify investment projects. The CP/Fisheries Group meets regularly and is considered highly productive by both parties. The CP/Forestry Group has not yet met but is intended to formalise important existing informal relations.

C. Staff Contacts in Rome

- 1. Quantity. The average CP staff member spends almost 8% of his work time interacting with FAO. He averages 1.5 contacts per week, 70% of which -- in the aggregate -- are informal.
- 2. Quality. According to mission leaders, 95% of these contacts are either "very useful" or "useful". CP staff consider their capacity to tap FAO HQ as either "vital" (17%) or "important" (59%).

3. Nature. CP's main contacts are with the technical Departments (e.g. Agriculture, Forestry and Fisheries) (54%), and Divisions of the Economics and Social Policy Department (25%): 51% of the interaction time is intended primarily for Bank or CP benefit; 21% is intended primarily for FAO benefit; the balance is seen by CP as being for mutual benefit. The contacts are predominantly for technical advice (28%), country advice (16%) and data (15%).

4. Other Contact.

- (a) FAO Input. FAO staff provide about 7 man-years/year of service to CP -- about 30% of its consultant-budget-funded effort.
- (b) CP Contribution. CP in 1974 had 10 formal but not reimbursed assignments exceeding one week to FAO, totalling 29 man-weeks of which 50% was in the field. The CP time formally loaned to FAO was roughly one-tenth of the FAO time received by CP.
- (c) Professional Development. CP staff make considerable use of FAO publications (particularly of an economic and statistical nature) and sometimes attend seminars and technical meetings organized by FAO.

D. Contacts in the Field

A side benefit of the relationship not to be overlooked is the use -- usually informal -- of FAO field staff. FAO field staff in 1974 numbered roughly 2,200 on UNDP-funded activities and 780 on other programs. With respect to 27 of CP's most recent missions (as of 4/25/75), there were 48 "contacts" with FAO field staff, 30 of which were described by CP staff as "extensive". Of the total, CP considered 94% "very useful" or "useful". (See Table 11:2.)

E. Contacts by IC Service

The IC Service makes relatively heavier use of FAO's resources than the two Bank-related services for at least the following reasons:

- 1. Bankers' Programme. The Bankers' Programme, with its "commercial" approach to development financing and interest in agro-industries, has established close links with the FAO Industry Cooperative Programme.
- 2. FAO Regional Office Funding. Some of the IC Service's activities are financed by funds administered by FAO regional offices, staff of which sometimes participate in the missions.

3. UNDP. The UNDP-financed post for investment follow-up is located in the IC Service.
4. Staffing. The IC Service is staffed mainly by economists and project analysts whose need for FAO technical input is greater than that of the more specialized CP staff. FAO staff are invariably involved in reviews of IC reports.

VII. FAO/BANK RELATIONS NOT INVOLVING CP

The CP has not been and should not be an exclusive channel for relations between the Bank and FAO. In some cases the CP has promoted new links while in others extensive coordination has occurred with no CP involvement. Points of FAO/Bank interaction, outside the formal ACC heads-of-agency meetings, include the following (See also Table 13):

A. Formal Inter-agency Agreements

- Commodities. FAO's Commodity Division reviews and clears all Bank appraisal reports with agricultural commodity implications.
- FAO/WB Cooperative Research Project on Small Farm Statistics. The Bank is sponsoring an FAO inter-divisional study of small farm characteristics and development potential.
- FAO/WB East Africa/Near East Meat Study. This is a joint study of prospects for producing more meat in East Africa and marketing it in the Near East.
- Sector Work. FAO and the Bank have agreed in principle not to carry out agricultural sector studies in the same country in the same year.

B. Jointly Sponsored Committees/Institutions

FAO and the Bank, together with other institutions, meet as joint sponsors of several inter-agency groups including:

- UN Protein Advisory Group (PAG)
- Consultative Group on International Agricultural Research (CGIAR)
- Consultative Group on Food Production and Investment (CGFPI)
- Onchocerciasis (River Blindness) Control Programme

C. Informal Contacts

Numerous informal contacts between FAO and Bank staff (both at HQ and in the field) exist, are of significant value to both organizations and also frequently serve as precursors of more formal relationships. The commodity staffs of each institution generally exchange draft papers for comment and meet at commodity group consultations. Bank staff are frequently invited to, and occasionally attend, FAO technical meetings and study groups (e.g. the Pulp and Paper Study). FAO forestry staff assist regularly in EDI teaching. EDI provides training materials for FAO's project analysis training courses. Bank and FAO staff have conferred about the nascent PICASA (Programme of International Cooperation in Agricultural Sector Analysis).

- D. Field Contacts. Bank missions frequently contact FAO field staff for advice and sometimes assistance. Although there are occasional formal arrangements, contacts are usually made informally to save time and avoid the complications of "channels."

VIII. THE UNDP DIMENSION

In this section on FAO-executed UNDP-financed projects, we outline in turn:

- A. Magnitude of the task
- B. The UNDP project cycle
- C. The "investment orientation" process

A. Magnitude of the Task

FAO employs approximately 2,200 field staff to implement roughly 600 UNDP-funded large-scale technical assistance projects which cost approximately US\$100 million/year. The total value of UNDP-projects now under administration is US\$400 million. In 1974, 395 new projects (of which 138 were large-scale) were started. Of the 184 investment-oriented projects approved in the 3 year period (from 1972-74), 21 were classified by UNDP Resident Representatives as "Investment Support", 63 as "Preliminary Investment Potential" and 100 as "Investment Potential". The Bank has declared a "special interest" in approximately 30 current projects -- which entitles it, with country approval, to receive all the documentation and suggest modifications. For Bank "special interest" projects, CP is the Bank's designated "watching agent."

B. UNDP Project Cycle

The UNDP project cycle is detailed in Table 1 of Annex 7. Broadly, it is as follows:

1. FAO, through Programming Missions, assists the country to define an agricultural project pipeline
2. UNDP Resident Representatives negotiate a country programme, including agricultural projects, with Governments
3. After revision by the executing agency and finalization in the country, the country programme is presented by UNDP to its Governing Council
4. Executing agencies are assigned implementation responsibility and prepare a Project Document for signing by the agency, Government and UNDP. (FAO receives a management commission of about 14% of the value of commitments)
5. Executing agencies recruit staff and activate the project
6. UNDP mounts a mid-term review mission
7. Project staff prepare technical and final reports

C. "Investment Orientation" Process

1. Background. From 1967 to 1970 CP organized annual UNDP, WB and FAO reviews of all FAO/UNDP projects and then undertook to follow-up those large enough to be of interest to the Bank. In 1970, UNDP established an Investment Follow-up Division at UNDP HQ and appointed Investment Officers in each Regional Bureau. At the same time, it financed 2 (later reduced to 1) Investment Follow-up officers in the FAO IC Service. FAO as Executing Agency is now responsible, through its Investment Follow-up Officer, for preparing (or arranging for an IP project to prepare) two reports -- the "IPPA" (Investment Potential Preliminary Analysis Report, normally produced in the preparatory phase of the project) and the "IPA" (Investment Potential Analysis Report, assembled towards the completion of the project). The CP services retain the responsibility of overseeing the Bank's "special interest" projects.
2. Purpose of IC Service Involvement. IC has sought, within severe staff limitations to:
 - (a) Identify those FAO/UNDP technical assistance projects of potential relevance to the investment programs and strategies of financing institutions.
 - (b) Help key FAO/UNDP projects to the methodological requirements of financing institutions
 - (c) Present IP projects to financing institutions for inclusion in their pipeline
3. Extent of Involvement. Since 1971, the IC Service has reviewed 15 Country Programs and contributed to 120 projects through:
 - 20 field missions
 - 73 desk reviews (technical, progress and final reports)
 - 42 comments on project documents
 - 19 project staff briefings
 - 9 "Task Force" meetings

BASIC REFERENCE DATA

TABLES

1. CP Mission Days by Activity as a Percentage of Total CP Mission Days for Each Region (FYs 70-74)
2. Distribution of Bank Agriculture Effort (Staff Man-Weeks) and CP Effort (Mission Days) Among Regions by Activity
3. CP-Assisted Projects Compared to all Agricultural Projects Approved by the Bank
4. Percentage Distribution of CP Mission Days by Subsector Within Regions
5. Percentage Distribution of CP Mission Days by Region Within Subsector
6. Each Region's CP Mission Days as a Percentage of World-wide CP Mission Days for Each Activity (FYs 70-74)
7. Comparison Between Bank and CP Agricultural Staff Manpower
8. Source of CP Staff Hired from 1970 through 1974
9. Comparison Between Cost of Bank and CP Man-years
10. Bank/CP Travel Cost Comparison
11. Analysis of CP Questionnaire Responses
12. Summary of Formal IC/CP - FAO Relationships
13. Summary of Formal FAO-World Bank Relationships

ACTIVITY ANALYSIS

CP MISSION DAYS* BY ACTIVITY AS A PERCENTAGE OF TOTAL CP MISSION DAYS FOR EACH REGION (FYs 70 - 74)

CP MISSION DAYS		PREP.	IDENT./RECON.	APPRAISAL	ECON./SECTOR	SUPERVISION	OTHER	ALL (ACTUAL)	
All Regions	5FY	55	25	9	8	1	2	100%	27583
	74	50	34	12	2	1	2	100%	6137
	73	67	16	8	7	1	1	100%	6070
	72	57	25	6	9	2	1	100%	5519
	71	52	30	11	6	1	1	100%	4970
	70	50	22	9	16	-	3	100%	4887
EAP	5FY	49	15	14	19	1	3	100%	2811
	74	49	26	9	6	-	10	100%	700
	73	38	10	25	27	-	-	100%	461
	72	45	19	16	16	3	1	100%	598
	71	35	17	10	39	-	-	100%	429
	70	71	-	11	18	-	-	100%	623
WAF	5FY	54	7	16	19	2	2	100%	1799
	74	41	5	42	12	-	-	100%	447
	73	83	-	12	-	-	-	100%	249
	72	29	35	23	-	14	-	100%	167
	71	70	-	5	17	-	5	100%	500
	70	33	-	5	54	3	3	100%	340
EAsia	5FY	52	34	7	5	2	1	100%	4878
	74	60	31	6	2	1	-	100%	1343
	73	41	37	3	12	2	5	100%	935
	72	62	12	9	12	5	-	100%	636
	71	52	36	9	-	2	-	100%	1188
	70	41	49	10	-	-	-	100%	776
SAsia	5FY	69	14	11	4	1	1	100%	5683
	74	69	17	13	1	1	-	100%	1928
	73	72	14	7	6	1	1	100%	1484
	72	82	-	5	11	2	-	100%	1067
	71	54	26	18	-	2	-	100%	899
	70	53	-	26	11	-	10	100%	302
EMENA	5FY	59	26	7	5	-	2	100%	6753
	74	34	52	8	-	1	6	100%	825
	73	76	14	5	4	-	2	100%	1388
	72	74	13	5	7	1	1	100%	1676
	71	46	43	11	-	-	-	100%	1303
	70	54	24	8	-	10	4	100%	1561
LAC	5FY	45	39	6	8	-	2	100%	5659
	74	13	78	10	-	-	-	100%	899
	73	78	12	8	2	-	-	100%	1553
	72	25	65	-	7	1	3	100%	1375
	71	56	25	9	8	2	-	100%	563
	70	42	24	8	23	-	3	100%	1269

Preparation work accounted for 55% of CP's mission days in FYs 70-74; identification/reconnaissance work, 25%. In S. Asia, 69% of CP's mission days in the 5-year period were for preparation, only 14% for identification/reconnaissance. The highest proportions of identification/reconnaissance work were for LAC (39% of the region's CP mission days) and E. Asia (34%).

HIGHLIGHTS

Usage patterns of the regions vary widely from year to year:

- LAC, for example, used 78% of its CP mission days for identification/reconnaissance and 13% for preparation in FY74, while in FY73 the proportions were reversed -- 12% and 78% respectively;
- EMENA, in FY74, used 34% for preparation, 52% for identification/reconnaissance; in FY73, 76% and 14% respectively.

WAF (which used 6% of CP's total mission days) used 42% of its share for appraisal work in FY74.

* Includes consultants and FAO staff on loan.

ACTIVITY ANALYSIS

DISTRIBUTION OF BANK AGRICULTURE EFFORT (STAFF MAN-WEEKS) AND CP EFFORT (MISSION DAYS) AMONG REGIONS BY ACTIVITY)

	TOTAL	PREPARATION	IDENT./RECONS.	APPRAISAL	ECON./SECTOR	SUPERVISION	OTHER
CP (FYs 70 - 74)							
All Regions	100%	55%=100	25%=100	97%=100	8%=100	17%=100	27%=100
EAf	10	9	6	15	25	8	17
WAF	6	6	2	11	16	13	9
EAsia	18	16	24	14	10	35	11
SAsia	21	26	11	26	12	27	10
EMENA	24	26	25	20	15	9	34
LAC	20	16	32	14	21	8	19
CP (FY'74)							
All Regions	100%	50%=100	34%=100	12%=100	27%=100	17%=100	27%=100
EAf	11	11	9	9	29	-	60
WAF	7	6	1	26	38	-	-
EAsia	22	26	20	10	23	39	-
SAsia	31	43	16	34	11	44	-
EMENA	13	9	21	9	-	17	40
LAC	15	4	34	12	-	-	-
BANK (FY'74)							
		PREAPPRAISAL					TECH. ASSISTANCE
All Regions	100%	18%=100		52%=100	11%=100	19%=100	27%=100
EAf	20	22		18	26	21	3
WAF	13	6		17	11	10	1
EAsia	15	17		15	8	16	95
SAsia	18	15		20	24	11	1
EMENA	15	19		15	-	21	1
LAC	19	21		15	30	21	1

HIGHLIGHTS

Preappraisal work consumed 18% of Bank time in agriculture in FY74 and 84% of CP's mission days (50% for preparation, 34% identification/reconnaissance).

South Asia in FY74 consumed 15% of Bank agriculture preparation time but 43% of CP's mission days devoted to preparation and 16% devoted to identification/reconnaissance.

Eastern Africa in FY74 consumed 22% of Bank agriculture time devoted to preappraisal, but only 11% of CP's mission days for preparation and 9% of those for identification/reconnaissance.

Western Africa's very low CP usage in preappraisal work (6% of the total for preparation, 1% for identification/reconnaissance in FY74) reflects its low proportion of the total Bank preappraisal effort -- 6% -- and extensive use of FAC by the WAF countries.

Appraisal Effort. S. Asia has used the largest share (34% in FY74) of CP mission days devoted to appraisal and also the largest share of Bank time (20%).

Economic and Sector work consumed 11% of the Bank's effort, 2% of CP's mission days in FY74.

SUBSECTOR ANALYSIS
CP-ASSISTED PROJECTS COMPARED TO ALL AGRICULTURAL PROJECTS APPROVED BY THE BANK

	TOTAL	CREDIT	AREA/RURAL DEVELOPMENT	FISHERIES	IRRIGATION	LIVESTOCK	INDUSTRY	PRODUCTION	FORESTRY
Bank Agriculture Projects Approved	174	22	31	7	47	32	12	20	3
Total	174	22	31	7	47	32	12	20	3
FY75 thru Feb. 1974	34	3	9	1	7	6	-	6	2
FY74	57	7	11	2	21	9	3	4	-
FY73	47	5	5	2	11	8	6	8	1
FY72	36	7	6	2	8	8	3	2	-
CP assisted Total	65	6	6	6	24	16	4	1	2
FY75 thru Feb. 1974	14	1	2	-	6	3	-	-	-
FY74	17	2	3	2	6	2	2	1	-
FY73	16	-	1	2	6	5	1	-	-
FY72	18	3	-	2	6	6	-	-	-
EAF	32	1	11	-	5	9	1	4	1
Total	32	1	11	-	5	9	1	4	1
FY75 thru Feb. 1974	5	-	2	-	-	1	-	1	-
FY74	10	1	4	-	1	3	-	2	-
FY73	10	-	3	-	3	3	-	-	-
FY72	7	-	2	-	1	2	1	1	-
CP assisted Total	8	-	-	-	2	4	-	-	1
FY75 thru Feb. 1974	2	-	-	-	-	1	-	-	-
FY74	1	-	-	-	1	1	-	-	-
FY73	2	-	-	-	1	1	-	-	-
FY72	3	-	-	-	1	1	-	-	-
WAF	40	1	10	-	12	6	-	11	-
Total	40	1	10	-	12	6	-	11	-
FY75 thru Feb. 1974	10	-	3	-	1	1	-	5	-
FY74	16	1	3	-	8	3	-	2	-
FY73	6	-	4	-	1	2	-	4	-
FY72	8	-	-	-	2	-	-	-	-
CP assisted Total	9	-	1	-	5	2	-	1	-
FY75 thru Feb. 1974	1	-	1	-	1	-	-	-	-
FY74	2	-	-	-	1	-	-	-	-
FY73	2	-	-	-	1	-	-	-	-
FY72	4	-	-	-	2	-	-	1	-
EMENA	28	6	-	4	12	3	2	-	1
Total	28	6	-	4	12	3	2	-	1
FY75 thru Feb. 1974	6	2	-	1	3	-	-	-	-
FY74	6	1	-	1	4	2	-	-	-
FY73	10	-	-	1	4	1	-	-	-
FY72	6	3	-	1	1	-	-	-	-
CP assisted Total	17	2	-	3	10	2	-	-	-
FY75 thru Feb. 1974	3	-	-	-	3	-	-	-	-
FY74	4	-	-	1	3	-	-	-	-
FY73	5	-	-	1	3	1	-	-	-
FY72	5	2	-	1	1	1	-	-	-
LAC	26	6	2	1	6	8	2	1	-
Total	26	6	2	1	6	8	2	1	-
FY75 thru Feb. 1974	3	1	1	-	-	1	-	-	-
FY74	10	4	1	-	4	2	-	-	-
FY73	8	-	1	-	1	3	-	-	-
FY72	5	1	-	1	1	2	2	1	-
CP assisted Total	12	3	2	1	1	5	-	-	-
FY75 thru Feb. 1974	3	1	1	-	-	1	-	-	-
FY74	4	2	-	-	1	1	-	-	-
FY73	3	-	-	-	-	2	-	-	-
FY72	2	-	-	-	-	1	-	-	-
EAsia	25	3	5	2	7	2	2	4	-
Total	25	3	5	2	7	2	2	4	-
FY75 thru Feb. 1974	3	1	2	1	1	-	-	-	-
FY74	9	-	1	1	3	1	2	3	-
FY73	8	1	-	-	1	1	-	-	-
FY72	5	-	-	-	-	-	-	-	-
CP assisted Total	7	1	-	2	1	2	1	-	-
FY75 thru Feb. 1974	-	-	-	-	-	-	-	-	-
FY74	2	-	-	1	-	1	1	-	-
FY73	2	-	-	1	-	1	-	-	-
FY72	3	1	-	-	-	1	-	-	-
SAsia	23	5	3	-	5	4	5	-	1
Total	23	5	3	-	5	4	5	-	1
FY75 thru Feb. 1974	7	1	1	-	2	3	1	-	1
FY74	6	-	2	-	1	1	2	-	-
FY73	5	-	-	-	1	-	-	-	-
FY72	5	2	-	-	1	-	-	-	-
CP assisted Total	12	-	3	-	5	1	2	-	1
FY75 thru Feb. 1974	5	-	1	-	2	1	-	-	-
FY74	4	-	2	-	1	-	1	-	-
FY73	2	-	-	-	1	-	-	-	-
FY72	1	-	-	-	1	-	-	-	-

HIGHLIGHTS

37% of agriculture projects approved in the past 44 months had CP assistance:

- . 61% of EMENA's
- . 52% of S. Asia's
- . 46% of LAC's
- . 30% of E. Asia's
- . 25% of EAF's
- . 23% of WAF's

Subsectors:

- . Fisheries 86%
- . Irrigation 51%
(100% of S. Asia's,
83% of EMENA's,
14% of E. Asia's)
- . Livestock 50%
- . Area/rural development 19%
(100% of S. Asia's,
0% of EAF's,
0% of E. Asia's)

The proportion of Bank-approved projects which received CP-assistance has grown sharply in S. Asia and declined in W. Africa, E. Asia and E. Africa. Trends are less clear in EMENA and LAC.

SUBSECTOR ANALYSIS
PERCENTAGE DISTRIBUTION OF CP MISSION DAYS BY SUBSECTOR WITHIN REGIONS*

		TOTAL		CREDIT	AREA/RURAL DEVELOP.	FISHERIES	IRRIGATION	LIVESTOCK	INDUSTRY	PRODUCTION	FORESTRY	EDUCATION	OTHER SUBSECTOR	NON- SUBSECTOR
ALL REGIONS	CP MISSION DAYS	17736	100%	6	27	5	18	9	2	1	10	8	7	7
Total		6137	100%	6	33	4	21	11	.3	1	11	10	2	4
FY74		6080	100%	4	36	8	13	6	-	2	8	4	10	9
FY73		5519	100%	9	9	8	19	11	5	1	9	9	11	9
FY72			100%											
EA	Total	1759	100%	-	8	-	3	13	3	-	23	20	10	20
FY74		700	100%	-	19	-	-	-	-	-	39	25	1	16
FY73		461	100%	-	2	-	5	21	-	-	28	12	5	27
FY72		598	100%	-	1	-	4	23	10	-	-	21	23	18
WAF	Total	858	100%	3	26	8	22	-	-	10	9	15	3	6
FY74		442	100%	-	23	5	36	-	-	-	18	-	5	13
FY73		249	100%	-	45	-	2	-	-	29	-	21	2	-
FY72		167	100%	14	0	25	12	-	-	8	-	35	-	-
EA	Total	2914	100%	8	22	17	2	11	-	2	9	3	16	10
FY74		1343	100%	10	43	-	4	17	-	-	19	2	3	2
FY73		935	100%	2	8	36	-	4	-	3	-	4	27	16
FY72		636	100%	15	-	27	-	8	-	5	-	5	28	12
SA	Total	4489	100%	3	15	2	23	9	5	1	17	13	7	5
FY74		1928	100%	7	17	-	38	10	-	3	4	20	-	1
FY73		1494	100%	-	22	7	9	12	-	-	21	-	22	7
FY72		1067	100%	2	-	-	16	-	20	-	34	18	-	10
EMENA	Total	3889	100%	2	23	5	39	14	.5	-	2	2	6	7
FY74		825	100%	11	21	-	29	28	2	-	-	-	3	6
FY73		1388	100%	-	45	4	43	1	-	-	-	-	.4	7
FY72		1676	100%	-	6	7	40	18	-	-	5	5	11	8
LAC	Total	3827	100%	16	56	2	8	5	-	-	4	3	2	4
FY74		899	100%	3	80	-	13	3	-	-	1	-	-	-
FY73		1553	100%	15	69	-	2	2	-	-	4	6	-	2
FY72		1375	100%	25	26	6	11	9	-	-	5	2	6	10

HIGHLIGHTS

In FYs 72-74, 27% of CP mission days were in area/rural development, 18% in irrigation, 10% in forestry. Other subsectors were smaller.

- In LAC, most of the CP mission days were for area/rural development -- 56% in the 3-year period and 80% in FY74;
- In E. Asia, the largest share was for area/rural development -- 22% in the 3 years, 43% in FY74;
- EMENA's and S. Asia's largest shares were for irrigation -- 39% and 23% respectively;

BRD
Table 4

* Includes consultants and FAO staff on loan.

SUBSECTOR ANALYSIS
PERCENTAGE DISTRIBUTION OF CP MISSION DAYS BY REGION WITHIN SUBSECTOR

	TOTAL	CREDIT	AREA/RURAL DEVELOP.	FISHERIES	IRRIGATION	LIVESTOCK	FORESTRY	PRODUCTION	FORESTRY	EDUCATION	OTHER SUBSECTOR	
ALL REGIONS	17736	1106	4735	934	3138	1677	288	196	1785	1349	1301	
TOTAL	6137	373	2039	24	1307	693	18	34	680	593	97	
FY74	6080	247	2218	490	793	377	-	99	512	234	619	
FY73	5519	488	478	420	1038	607	270	43	513	522	585	
FY72												
1	100 100 100 100	100 100 100 100	100 100 100 100	100 100 100 100	100 100 100 100	100 100 100 100	100 100 100 100	100 100 100 100	100 100 100 100	100 100 100 100	100 100 100 100	
EAP	Total FY74 FY73 FY72	10 11 7 11	- - - -	3 6 - 2	- - - -	1 - 3 2	14 - 26 23	20 - - 22	- - - -	24 40 25 -	27 30 23 25	13 9 4 24
WAP	Total FY74 FY73 FY72	5 7 4 3	2 - - 5	5 3 5 2	7 100 - 10	6 12 - 2	- - - -	- - - -	44 - 73 33	5 12 - -	8 - 23 11	2 25 - -
EA	Total FY74 FY73 FY72	16 22 15 12	22 35 8 20	14 28 3 -	54 - 68 41	2 4 - -	19 34 10 8	- - - -	29 - 27 67	15 37 - -	6 4 14 6	36 38 41 31
SA	Total FY74 FY73 FY72	25 31 25 19	13 35 - 3	14 16 15 -	11 - 22 -	33 56 17 16	23 28 49 -	73 - - 78	28 100 - -	44 10 61 71	43 66 - 37	26 - 54 -
EMENA	Total FY74 FY73 FY72	22 13 23 30	8 24 - -	19 9 28 22	19 - 10 30	48 18 76 65	33 34 5 49	6 100 - -	- - - -	5 - - 15	7 - - 17	17 28 0 32
LAC	Total FY74 FY73 FY72	22 15 26 25	54 7 92 72	45 35 48 74	8 - - 19	10 9 4 15	11 4 10 20	- - - -	- - - -	9 - 13 14	9 - 40 5	6 - - 14

HIGHLIGHTS

In area/rural development, the greatest share of CP mission days has consistently and by a large margin been devoted to LAC -- 45% of the total for FYs 72 - 74.

In irrigation, the pattern varies -- with EMENA having a disproportionate share (76%) in FY73 and S. Asia a disproportionate share (56%) in FY74. E. Asia's usage has been negligible.

In forestry, the third largest subsector, S. Asia used more than half in FYs 72 (71%) and 73 (61%); E. Asia (37%) and EAF (40%) were heavy users in FY74.

In education, EAF is a consistent disproportionately heavy user (27% for FYs 72 - 74); S. Asia used 66% of CP mission days in FY74, but none in the prior year.

Credit CP mission days were predominantly devoted to LAC in FYs 72 and 73 (72% and 92% respectively), but in FY74, LAC use dropped to 7%.

ACTIVITY ANALYSIS **EACH REGION'S CP MISSION DAYS AS A PERCENTAGE OF WORLD-WIDE CP MISSION DAYS FOR EACH ACTIVITY (FYs 70 - 74)**

		PREP.					IDENT./RECON.					APPRAISAL					ECON./SECTOR					SUPERVISION					OTHER					ALL																																																
ALL REGIONS	5FY	5292						6958						2538						2132						251						442						27583																																										
	74	3050						2070	990					717	461					146	406					486	309					41	36					120	44	10	113	85					69	29	166	6137	6070					5519	4970	4887																						
	73		4092						1351						339						529						785						8						17						10						6887																													
	72		3154						1487						1060						462						100						100						100						100						100						100																							
	71		2572																																																																													
	70		2424																																																																													
EAP	5FY	9						6						15						25						8						17						10						10						10						10																								
	74		11						9						9						29						-						60						-						11						8						11						9					13												
	73		4						4						24						31						-						-						-						-						-						-						-																	
	72		8						8						28						19						16						12						-						-						-						-						-																	
	71		6						5						8						53						-						-						-						-						-						-						-																	
	70		18						-						14						15						100						100						6						-						-						-						-																	
WAF	5FY	6						2						11						18						13						9						6						6						6						7						4						3						12						7
	74		6						1						26						66						-						-						-						-						-						-						-																	
	73		5						1						7						-						-						-						-						-						-						-						-																	
	72		2						4						11						-						19						-						-						-						-						-						-																	
	71		16						2						3						32						-						100						100						-						-						-						-																	
	70		5						-						4						24						-						-						-						-						-						-																							
E Asia	5FY	16						24						14						10						35						11						18						18						18						22						15						11						24						16
	74		26						20						10						23						39						-						-						-						-						-						-																	
	73		9						35						6						28						50						58						-						-						-						-						-																	
	72		12						6						17						15						28						-						-						-						-						-						-																	
	71		24						29						21						-						28						48						-						-						-						-						-																	
	70		13						36						16						-						-						-						-						-						-						-																							
S Asia	5FY	26						11						26						12						27						10						21						21						21						31						24						19						18						6
	74		43						16						34						11						44						-						-						-						-						-						-																	
	73		26						21						22						21						36						18						18						-						-						-						-																	
	72		28						-						16						24						18						-						-						-						-						-						-																	
	71		19						16						31						-						32						-						-						-						-						-						-																	
	70		7						-						17						4						-						-						21						-						-						-																							
EMENA	5FY	26						25						20						15						9						34						24						24						24						13						23						30						26						32
	74		9						21						9						-						17						40						25						23						-						-						-																	
	73		26						19						14						14						14						25						23						-						-						-						-																	
	72		39						16						26						23						8						-						-						-						-						-																							
	71		23						38						27						-						-						-						-						-						-						-																							
	70		35						35						28						20						-						-						46						-						-						-																							
LAC	5FY	16						32						14						21						8						19						20						20						15						26						25						11						26						
	74		4						34						12						6						-						-						-						-						-						-																							
	73		30						19						26						19						-						-						-						-						-						-																							
	72		11						66						-						19						10						65						-						-						-						-																							
	71		12						10						10						15						10						-						-						-						-						-																							
	70		22						29						21						17						20						-						27						-						-						-																							

HIGHLIGHTS

S. Asia's share of CP mission days has been increasing -- 19% in FY72, 24% in '73, 31% in '74; so has E. Asia's -- 11% in '72, 15% in '73, 22% in '74. EMENA's has been decreasing -- 30% in '72, 23% in '73, 13% in '74.

In the past 5 years, a larger proportion of CP mission days in the Africa regions -- 19% in EAF and 19% in WAF -- was devoted to economic/sector work than in the other regions (in none of which the proportion exceeds 8%); EAF accounted for 25% of all CP mission days for economic/sector work, WAF accounted for 16%.

Although 50% or more of CP mission days have been been devoted to preparation in each of the past five years, the four non-African regions' share of that work has fluctuated sharply:

The share of identification/reconnaissance work also has fluctuated:

	FY74	FY73	FY72
E. Asia	26%	9%	12%
S. Asia	43%	26%	28%
EMENA	9%	26%	39%
LAC	4%	30%	11%

	FY74	FY73	FY72
E. Asia	20%	35%	6%
S. Asia	16%	21%	0%
EMENA	21%	19%	16%
LAC	34%	19%	66%

* SINCE 1971, BANK AGRICULTURAL STAFF INCREASED BY 71%, CP BY 19%

* FAO-PROPER CONTRIBUTED ROUGHLY 8% OF CP-FUNDED MANPOWER

PROFESSIONAL AGRICULTURAL STAFF MANPOWER ^{1/}

<u>Bank</u>			<u>CP Funded</u>								FAO Total (excluding Consultants) as percent of Bank
<u>Staff</u> ^{2/}	<u>% Incr.</u>	<u>CP Staff</u> ^{3/}		<u>Consultants</u> ^{4/}		<u>FAO Staff</u> ^{4/}		<u>Total</u>			
		<u>Number</u>	<u>% Incr.</u>	<u>Number</u>	<u>% of Total</u>	<u>Number</u>	<u>% of Total</u>	<u>Number</u>	<u>% Incr.</u>		
1971	120	-	58	-	13	17.1	5	6.6	76	-	52.5
1972	142	18.3	59	1.7	14	17.5	7	8.8	80	5.3	46.4
1973	164	15.5	63	6.8	18	20.2	8	9.0	89	11.3	43.2
1974	190	15.9	61	0	16	19.0	7	8.3	84	-5.6	35.7
End 1974	<u>205</u> ^{5/}	<u>7.9</u>	<u>69</u>	<u>13.0</u>	<u>17</u> ^{5/}	<u>18.3</u>	<u>7</u> ^{5/}	<u>7.5</u>	<u>93</u>	<u>8.1</u>	<u>37</u>
Growth over full period	<u>85</u>	<u>70.8</u>	<u>11</u>	<u>19.0</u>	<u>4</u>	<u>1.2</u>	<u>2</u>	<u>0.9</u>	<u>17</u>	<u>22.4</u>	<u>-15.5</u>

^{1/} Staffing figures are taken at July 1, except those for end 1974.

^{2/} Regional Projects and CPS; 1974 figure includes Assistant Directors.

^{3/} Total effective CP staff; includes WB staff on loan, excludes CP staff loaned-out.
Source: Monthly Report of FAO Team Assignments.

^{4/} Full-time staff equivalent; calculated over the calendar year assuming 10 man-months per year.

^{5/} Estimated.

* OVER THE PAST FIVE YEARS 46% OF CP RECRUITS HAVE COME FROM FAO.....

SOURCE OF CP STAFF HIRED FROM 1970 THROUGH 1974

	<u>FAO</u>	<u>Consultants</u>	<u>Other</u>	<u>Total</u>	<u>Median Age at Recruitment</u>
CY 1970	6	3	2	11	43
CY 1971	3	-	3	6	30
CY 1972	1	7	3	11	46
CY 1973	5	1	1	7	40
CY 1974	9	7	1	17	42
<u>Total:</u>	<u>24</u>	<u>18</u>	<u>10</u>	<u>52</u>	<u>41</u>
% of all Recruits	46	35	19	100	

Current median age of all staff is 46

AT FY74 PRICE LEVELS, CP COST THE BANK

. 36% LESS THAN BANK STAFF

. 20% LESS THAN CONSULTANTS

	<u>Cost to Bank</u>	<u>Cost to FAO</u>
<u>Bank Regional Projects Staff</u> ^{1/}	\$61,100/man-year	-
<u>CP Staff</u> ^{2/}	39,120 (75% share)	\$13,040 (25% share)
		+ <u>5,285 (overhead)</u> ^{4/}
		18,325
<u>Bank Consultants</u> ^{3/}	49,100	-

- 1/ Includes regular salary at \$22,575; other personal services (retirement, dependency allowance, staff benefits and tax reimbursements) at \$10,560; overhead (office occupancy, representation, staff hospitality and contractual services) at \$7,675; the full cost of secretaries and assistants at \$9,780; and travel at \$10,500 (P&B data).
- 2/ Total CP costs (excluding consultant fees and pro-rated consultant travel) divided by CP professional man-years; includes \$6,383/man-year for operational travel, but no allowance for physical overheads.
- 3/ Includes fee at \$38,600 per man-year, operational travel at same level as for Bank staff (\$10,500) although it is probably much higher, but the data are available; no physical or clerical overheads included (which are viewed as fixed costs); no procurement or Bank management cost included.
- 4/ Estimated value of indirect services (Personnel, Finance, Accomodation Services, etc.) provided by FAO but not charged to CP. Figure would be about \$6000 higher per man if FAO paid for rental of buildings, but these are provided by the Italian Government.

*IF CP TRAVEL WERE DONE FROM WASHINGTON BY BANK STAFF

THE TOTAL ANNUAL EXCESS COST WOULD BE ABOUT \$403,000;

OR ROUGHLY \$5,000 PER CP MAN-YEAR

<u>Region</u>	<u>CP Missions^{1/}</u>		<u>Excess Costs from Washington BY BANK STAFF (US\$)</u>			
	<u>Round Trips</u>	<u>Man-days on site^{2/}</u>	<u>Air Fares^{3/}</u>	<u>Subsistence^{4/}</u>	<u>Lost Time^{5/} in Transit</u>	<u>Total</u>
East Africa	33	623	\$ 40,020	\$ 9,525	\$ 15,180	\$ 64,725
West Africa	15	305	17,680	1,625	6,900	26,205
EMENA	54	888	69,730	17,845	24,840	112,415
Latin America	52	1,000	(28,170)	7,065	(23,230)	(44,335)
East Asia and Pacific	57	1,537	41,910	14,615	(13,340)	43,185
South Asia	84	1,858	148,190	13,910	38,640	200,740
<u>TOTAL:</u>	295	6,211	289,360	64,585	48,990	402,935
Per man-year ^{6/}	3.7	77	3,595	802	609	5,005

- 1/ Based on actual missions, FY 1974 but excluding attendance at meetings, seminars, etc. Source: CP Semi-Annual Reports
- 2/ i.e. excluding travel time
- 3/ Long-term round-trip fares to capital cities, as at end 1974. Sources: WB Secretarial Guide; FAO travel office and FAO Manual.
- 4/ Including allowances for travel stopovers and rest periods. Sources: as for 3/
- 5/ To achieve the same man-days on-site, Bank man will generally spend longer in transit. Calculated as (extra days in transit) × (cost of Bank man per working day (US\$230)).
- 6/ Of total CP-funded input, i.e. CP Staff + FAO staff + consultants (87.5 m.y.) less 7 non-mission staff (gives 80.5 m.y.).

ANALYSIS OF CP QUESTIONNAIRE RESPONSES

HIGHLIGHTS

I. RESPONDENT PROFILE

1. Number of Years in CP:

More than:	0	2	5	10
but less than:	2	5	10	—
% of sample:	28%	26	28	20

2. Previous employment by FAO:

	<u>HQ</u>	<u>Field</u>	<u>HQ & Field</u>	<u>FAO Total</u>	<u>Consultant</u>	<u>Other</u>
% of sample	21%	24	13	58	18	24

II. SUBSTANTIVE CONTACT WITH FAO

3. Number of substantive matters (e.g., questions, issues, etc.) on which contact was made with FAO from 1 January - 31 March 1975.

<u>Contacts initiated:</u>	<u>Number per respondent</u>	<u>% of total contacts</u>
By CP staff:	6	47%
By FAO HQ staff:	3	23
By FAO field staff:	2	15
Mutually:	<u>2</u>	<u>15</u>
Total:	13	100%

4. Average time at HQ during period: 8.5 weeks

5. HQ divisions with which frequent contact has been made over the past year:

<u>Department/Programme</u>	<u>Percent of total number of mentions</u>
Agriculture	48%
Economic & Social Policy	25
Development	10
World Food Programme	7
Forestry	4
Fisheries	2
General Affairs & Information	2
Administration & Finance	<u>1</u>
	100%

- Of present CP staff, one in five has 10 years or more of CP experience; 28% less than 2 years.

- Fifty-eight percent of respondents have previously been with FAO, either at HQ, in the field or both.

- Substantive contacts average 1.5 per CP-man per week at headquarters.

- CP is the primary initiator of CP/FAO substantive contact.

- Over half of frequent contacts are with Technical Departments (Agriculture, Forestry, Fisheries), one quarter with Economic & Social Policy Department.

* Analyses are based on a sample of 53 questionnaires.

BRD
Table 11

6. Degree and usefulness of contacts with FAO (outside IC but including field staff) during mission cycle. *

HIGHLIGHTS

Mission Phase	Contact	Degree of Contact			Usefulness of Contact		Total	
		Extensive	Moderate	Slight	Very useful or Useful	Little use or Useless	No.	%
Pre-mission	Agriculture Dept.	6	12	4	20	2	22	49
	Econ. & Soc. Policy Dept.	3	6	4	12	1	13	29
	Forestry Dept.	1	1	1	3	-	3	7
	Fisheries Dept.	-	-	1	1	-	1	2
	Development Dept.	2	2	-	4	-	4	9
	World Food Programme	-	1	1	2	-	2	4
	Total	12	22	11	42	3	45	100%
	%	27%	49	24	94	6	100%	
Field	FAO Country/Rep./SAA	11	6	2	16	3	19	40%
	UNDP Proj. Managers/staff	17	8	-	25	-	25	52
	World Food Programme Repr.	2	1	1	4	-	4	8
	Total	30	15	3	45	3	48	100%
	%	63%	31	6	94	6	100%	
Post-mission	Agriculture Dept.	8	18	4	30	-	30	65
	Econ. & Soc. Policy Dept.	1	5	2	7	1	8	17
	Forestry Dept.	1	2	1	4	-	4	9
	Fisheries Dept.	-	-	-	-	-	-	-
	Development Dept.	-	2	-	2	-	2	4
	World Food Programme	-	1	1	2	-	2	4
	Total	10	28	8	45	1	46	100%
	%	22%	61	17	97	3	100%	
Overall	Total	52	65	22	132	7	139	100%
	%	38%	47	15	95	5	100%	
	Average per mission	1.9	1.4	0.8	4.8	0.3	5.1	

* Table covers 27 missions and shows the aggregate number of contacts estimated to have been made by mission members in connection with those missions.

- During each preparation mission cycle, members had an average of 5 substantive mission-related contacts with FAO.
- Mission FAO/HQ contacts outnumber field contacts by 2:1, but each field contact is more extensive.
- Mission-FAO contacts are given a high utility rating.

7. Purpose of substantive contacts with FAO HQ or Field Staff in Rome:

	<u>Weighted % of total</u>
Technical Advice	28%
Country Advice	16
Data	15
Review of Documents/Reports	14
UNDP/Bilateral Projects	12
Working Groups/Seminars	6
Staff Consultant Selection	4
Policy Advice	3
Other	<u>2</u>
	100%

8. Mode of contact with FAO HQ or Field Staff in Rome, ranked most frequent (1) to least frequent (5):

	<u>Weighted % of total</u>
Informal meeting	29%
Phone	28
Formal meeting	17
By-product of social contact	13
Writing	<u>13%</u>
	100%

9. Estimated proportion of total working time (excluding FAO non-CP mission-related work) spent interacting with FAO/Rome:

	<u>% of total work time</u>	<u>% of interaction time</u>
Interaction intended primarily for:		
- Bank or CP benefit	4.0%	51%
- FAO benefit	1.6	21
- Mutual enefit	<u>2.2</u>	<u>28</u>
Total	7.8%	100%

HIGHLIGHTS

- In almost 60% of cases, purpose of contact is technical/country advice or data.
- Only 6% of contact (0.5% of total working time - see 9 below) concerns working groups/seminars.

- About 70% of CP/FAO contact is outside formal channels (and probably stems from FAO proximity).

- About two-thirds of interaction time is for CP benefit, one-third for FAO benefit.
- Contact time at HQ represents about 6 man-years/year for CP as a whole.

10. Non-CP FAO assignments exceeding one week in which CP staff participated in the last 12 months:

Department	No. of Assignments	Time (weeks)		Total
		Field	HQ	
Office of D.G.	3	3.5	2.0	5.5
Development	1	4.0	6.0	10.0
Agriculture	2	3.0	2.0	5.0
Economic & Social Policy	2	-	2.0	2.0
Forestry	1	-	1.5	1.5
Administration	1	4.0	1.0	5.0
Total	10	14.5	14.5	29.0

11. Work for FAO (Non-IC) during last mission:

% of missions

Yes:	11%
No:	89

III. CP USE OF FAO DOCUMENTATION

12. FAO publications received regularly:

Publications	Reading Intensity (As % of Total Responses)			
	Always	Often	Sometimes	Total
Monthly Bulletin, Production/Trade Yearbooks (ESS)	22%	19%	6%	47%
AGL Technical Reports, Publications	11	6	2	19
Commodity Review, Projections (ESC)	9	11	7	27
State of Food & Agriculture (BSP)	11	4	6	21
CERES	6	11	2	19
FAO Conference/Council Reports	4	11	2	17
FAO Library - Lists, Selected Articles	2	11	2	15
Forestry Yearbooks, Reports	7	4	2	13
AGS Publications, Reports	7	2	2	11
UNDP Mission/Tech. Reports (unspecified)	4	2	2	8
Others	11	40	4	55
Use of FAO Library by CP staff:	11%	30	49	91%

HIGHLIGHTS

- Total CP time spent on FAO assignments (29 man-weeks) is equivalent to only 1% of CP staff man-years or only 10% of FAO staff time made available to CP. (See Annex A)
- Only in a few cases do missions undertake FAO assignments
- CP staff use a wide range of FAO publications.
- Statistical publications (ESS, ESC, FO) predominate.
- 41% of respondents make extensive use of FAO library.

IV. UTILITY OF FAO HQ TO THE CP

13. Perceived value of CP's capacity to tap FAO Headquarters:

	<u>% of Replies</u>
Of little significance	9%
Useful but not important	15
Important	59
Vital	17

V. CP/BANK INTERACTION

14. Participation of CP Staff in Bank Missions and CP staff visits to Washington:

	<u>During CY'74*</u>		<u>During CYs'72-'74*</u>	
	<u>Positive replies as % of total</u>	<u>Average per reply</u>	<u>Positive replies as % of total</u>	<u>Average per reply</u>
Appraisal missions where CP				
a. was involved in preparation	12%	1.0	31%	1.8
b. was not involved	6%	1.0	15%	1.8
c. Overall:	18%	1.0	46%	1.8
Supervision missions	9%	1.0	12%	1.3
Bank economic/sector review missions	9%	1.3	27%	1.6
Other Bank-led missions (i.e. identification, reconnaissance, preparation)	18%	1.5	38%	2.2
Visits to Bank Headquarters:	62%	2.0	100%	4.3
Number of CP missions during the period	100%	3.4	100%	9.1

* For each period, 1st column shows the percentage of respondents who had been on at least one of the missions/visits specified, as a percentage of the total number of respondents; 2nd column shows the average number of missions/visits by those respondents included in the first column.

HIGHLIGHTS

- Over three quarters of CP staff maintain that their capacity to tap FAO/HQ is important or vital.
- Less than one CP man in five went on an appraisal mission in CY 1974, less than one in ten on a supervision mission.
- Only 54% of CP staff were involved in any kind of Bank-led mission over the same period.
- Only 12% of operational staff who have been in CP for over 3 years have been on a supervision mission, almost two thirds have not been on any Bank-led reconnaissance, identification or appraisal missions.
- Almost 40% of respondents did not visit Bank HQ in CY 1974, but those with more than 3 years in CP average nearly 1.5 visits/year -- almost once per 2 missions.

15. Perceived value of participation in Bank-led missions:

CP staff desire for occasional participation in:

	<u>% of total</u>
- Supervision missions	87%
- Appraisal missions	74
- Sector review missions	60

16. Receipt of relevant Bank documentation:

<u>Document</u>	<u>As % of those who want document</u>				<u>"Want" as % of replies</u>
	<u>Always</u>	<u>Often</u>	<u>Seldom</u>	<u>Never</u>	
Economic reports	44%	33%	15%	8%	91%
Sector studies	39	41	12	8	92
Appraisal reports	45	29	18	8	92
Supervision reports	5	17	52	26	87
Issues papers/ decision memoranda	7	17	30	46	87
Policy papers/ guidelines	8	27	49	16	92
Central projects memoranda	2	9	33	56	87
Working papers	-	10	38	52	79%
Overall	17%	20%	33%	30%	

VI. CHARACTERISTICS OF CP PREPARATION MISSIONS *

17. Identification missions preceding last completed CP preparation:

	<u>Replies as % of total</u>
CP-led reconnaissance/identification mission	53%
Bank-led reconnaissance/identification mission	22
Joint reconnaissance/identification mission	16
None of the above	9
	<u>100%</u>

* Information based on responses of 27 mission leaders concerning their most recent preparation mission.

HIGHLIGHTS

- Nearly 9 out of 10 staff want to participate in supervision missions, three-quarters in appraisal missions
- Overall, 63% of CP staff seldom or never receive Bank documentation they want;
- There is a strong unsatisfied CP demand for Supervision Reports and Issues Papers, as well as for Policy Papers and CPS memoranda.
- About 70% of the reputed missions were preceded by reconnaissance/identification with CP involvement.

BRD

Table 11:6

18. Mission Leader/Bank dialogue prior to first CP mission on project:

	As % of "yes" replies
Yes: 96%	
in Washington	50
in Rome	19
in field	35
by phone	19
by correspondence other than routine terms of reference clearance	35%

19. Staff composition of missions:

	<u>Total</u>	<u>CP</u>	<u>FAO</u>	<u>Bank</u>	<u>Consultants</u>
Average no. per mission	5.0	3.0	0.6	0.1	1.3

20. Lapsed-time and man-weeks by phase of mission cycle:

	<u>weeks lapsed</u>		<u>Mission Member man-weeks</u>	
	<u>Average</u>	<u>% of total</u>	<u>Average</u>	<u>% of total</u>
Mission preparation in Rome	2.2	11%	4.5	9%
Field work (including Washington)	4.6	23%	18.3	35%
Report writing and CP review (i.e. up to release to Bank)	<u>8.1</u>	<u>40%</u>	<u>24.0</u>	<u>47%</u>
Sub-total	14.9	74%	46.8	91%
Clearance and revision (i.e. from release to Bank to release to country)	<u>5.3</u>	<u>26%</u>	<u>4.8</u>	<u>9%</u>
Total	20.2	100%	51.6	100%

HIGHLIGHTS

- Almost invariably CP mission leaders had dialogue with the Bank before the first CP mission; half of all dialogue took place in Washington. (Further analysis of this data shows that dialogue was 'person-to-person' in 58% of cases).
- The average preparation mission consisted of 5 persons, of which 3 were CP staff.
- Typical CP preparation mission cycle is 5 months in all, with Yellow Covers completed in under 4 months; lapsed time for clearance through Bank and revision of Yellow Covers is equivalent to about 60% of CP report-writing and review time. (Compare to appraisal lapse time of 48 weeks, applied time of 61 weeks. Source: Bank project timetables and time reporting system).
- About one third of total mission manpower resources is used in the field, two thirds at HQ.

SUMMARY OF FORMAL IC/CP - FAO RELATIONSHIPS

LINKAGE	SPONSORING FAO DIVISION	IC/CP ROLE
FAO/UNDP Projects	AGO/DDF	Active: investment orientation
IC/Fisheries Joint Group	FI	Active: project orientation
IC/Forestry Joint Group	FO	Recently founded
International Scheme for Coordination of Dairy Development (ISCDD)	AGL	Contributory: briefing, debriefing, reports review
International Meat Development Scheme (IMDS)	AGL	Contributory: briefing, debriefing, reports review
Inter-Divisional Working Group on Rural Development (IDWG-RD)	ESH	Participatory: meetings, documents review, occasional drafting
Inter-Divisional Working Group on Agri- cultural Research (IDWG-AR)	DDD	Participatory: meetings
Inter-Divisional Working Group on Fertilizers (IDWG-F)	AGL	New group
Inter-Divisional Working Group for the Consultative Group for Food Production and Investment (IDWG-CGFPI)	DDC	Active: IC Director is Chairman and IC Senior Adviser, Secretary
Working Party on FAO Development Research Centre	ESP	Participatory: meetings
FAO/CARIPLO Agricultural Credit Study	AGS	Active: review and preparation of papers
FAO/UNDP Pulp and Paper Study	FOI	Active: meetings and review of papers

SUMMARY OF FORMAL FAO - WORLD BANK RELATIONSHIPS

LINKAGE	PURPOSE	CP INVOLVEMENT
A. Direct Linkages		
1. FAO/WB Cooperative Research Project on Small Farm Statistics	Study on small farming systems (statistics, agro-meteorology, land capability, farm management). (Financed by \$120,000 WB grant)	limited
2. FAO/WB East Africa/Near East Meat Study	Joint supply and demand study	active but limited
3. Commodities Programme	FAO reviews Bank reports with commodity implications. Exchange of data	none
4. Programme of International Cooperation in Agricultural Sector Analysis (PICASA)	Development of agricultural sector analysis methodology (Bank and FAO preliminary discussions)	limited
B. Co-Sponsorship Linkages		
1. UN Protein Advisory Group (PAG)	Planning and data for nutritional work by FAO, WHO and WB	none
2. Consultative Group on International Agricultural Research (CGIAR)	Promotion, establishment and operation of agricultural research centres (FAO provides secretariat for technical advisory committee)	very limited
3. Consultative Group on Food Production and Investment (CGFPI)	Assessment of needs and priorities for food production, and promotion of investment	active in FAO
4. Onchocerciasis Control Programme	Control of river blindness and subsequent resettlement of affected areas	limited in FAO

BRD

Table 13

333

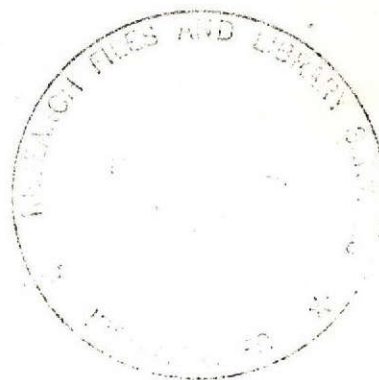
From Ken Kivahur as
per your request.

W-480
W-480
12/81
file #2
FAO/IBRD
CAPI

IBRD/FAO/UNDP

Consultative Group on Food Production
and Investment in the Developing Countries

THE POTENTIAL FOR INCREASED PRODUCTION FROM
THE FISHERIES AND THE REQUIREMENTS FOR INVESTMENT



FOOD AND AGRICULTURAL ORGANIZATION OF THE UNITED NATIONS
Rome, March 1976

492.12

The Potential for Increased Production from
the Fisheries and the Requirements for Investment

CONTENTS

	<u>Page</u>
1. THE PRESENT SITUATION	1
1.1 <u>Demand and Supply</u>	1
1.2 <u>Fish as Food</u>	2
1.3 <u>Potential</u>	2
1.4 <u>Utilization</u>	3
1.5 <u>Post-harvest Losses</u>	4
2. OPPORTUNITIES AND CONSTRAINTS	6
2.1 <u>The Characteristics of Fisheries</u>	6
2.2 <u>The Regional Approach</u>	7
2.3 <u>Resources, Technology and Markets</u>	9
2.3.1 Marine Demersal Species	9
2.3.2 Small Pelagic Species	9
2.3.3 Molluscs	9
2.3.4 Cephalopods	10
2.3.5 Mesopelagic fish	10
2.3.6 Krill	10
2.3.7 Fresh Water Species	11
2.3.8 Post-harvest Losses	11
2.3.9 Discards at Sea	11
2.3.10 Aquaculture	12
2.4 <u>Constraints on Development</u>	12
3. INVESTMENT FOR INCREASED PRODUCTION	15
3.1 <u>Factors Affecting Investment</u>	15
3.2 <u>Scale of Investment and Trends</u>	16
3.3 <u>Types of Investment Required</u>	17
3.4 <u>Investment Requirements: General Assumptions</u>	18
3.5 <u>Investment Requirements: Capture Fisheries</u>	19
3.6 <u>Investment Requirements: Aquaculture</u>	19

	<u>Page</u>
3.7 <u>Investment Requirements: Marketing and Distribution</u>	20
3.8 <u>Preparatory Expenditure</u>	21
3.9 <u>Assurance and Contingencies</u>	21
3.10 <u>Investment Requirements: Global</u>	22
4. DEVELOPMENT POLICY AND PROGRAMME	23
4.1 <u>Development Mechanisms</u>	23
4.2 <u>Production</u>	23
4.3 <u>Utilization</u>	24
4.4 <u>Programme and Priorities</u>	25
REFERENCES	26
Table 1 : PRESENT AND POTENTIAL FISH RESOURCES	27
Table 2 : DIRECT AND INDIRECT YIELDS OF PROTEIN FROM FISH	28
Table 3 : FISHERIES SECTOR: ESTIMATED OFFICIAL DEVELOPMENT ASSISTANCE, 1974	29
Table 4 : POSTULATED CONTRIBUTIONS FROM VARIOUS SOURCES TO INCREASED FISH PRODUCTION	30
Table 5a: COSTS (1976) AND PRODUCTION PERFORMANCE OF VARIOUS VESSEL TYPES	31
Table 5b: ASSUMPTIONS REGARDING COSTS OF SHORE INSTALLATIONS	32
Table 6a: ESTIMATED NUMBERS AND FIRST COSTS OF ADDITIONAL VESSELS REQUIRED	33
Table 6b: ESTIMATED COSTS OF SHORE INSTALLATIONS	34
Table 6c: ESTIMATED COST OF INVESTMENT IN KEY MANPOWER	35
Table 7 : SUMMARY OF ESTIMATED GLOBAL INVESTMENT REQUIREMENTS	36
APPENDIX A : DIRECT AND INDIRECT YIELDS OF PROTEIN FROM FISH	37

ABSTRACT

The paper reviews the potential for increased production of animal protein foodstuffs from the fisheries and provides a first estimate of the investment required to increase annual production from the present 70 million t/year to 225 million t/year by the end of the century, from the capture fisheries and from fish farming. No great technical problems are foreseen in harvesting or production, but a big effort will be required to develop suitable products and establish a demand for them. The potential is unlikely to be realized to the extent envisaged without heavy public expenditure on development, technical assistance, demonstration and support for commercial ventures. Some of the big resources are remote from centres of population and their exploitation requires high technology. These and other underexploited fishery resources represent a challenge to our skills in organization, technology and finance, if they are to be exploited for the benefit of mankind as a whole.

INTRODUCTORY SUMMARY

In relation to world requirements for animal protein foodstuffs, the potential of the fisheries is very large. The harvest could be expanded rapidly from the present 70 million t/year to three or four times that figure. Technical development would be required to evolve economic methods of harvesting some resources, but with the exception of one particular resource, no great problems are foreseen.

What may take longer is to establish a demand for fish and fish products in areas where they are unfamiliar, and acceptance of new products in areas where people are already accustomed to eating fish. Some of the unexploited and underexploited species have not hitherto been utilized to their full potential as human food because of small size, bones or other difficult characteristics, or because traditional methods of preservation have not been sufficiently effective to allow their transport into the hinterland and storage for detail distribution there. A deliberate programme of development of products and means of preservation, requiring low or intermediate technology, is in course of being organized under the general coordination of FAO. This must be followed by acceptability trials in the field, and by pilot-scale demonstrations; trials on one or two products have already begun. Finally, there would be the task of building up demand and making the products available at prices the potential consumers can afford.

It is the general experience, in fisheries, that only when there is an assured market will there be investment in systems of production and distribution. The pioneering work is not likely to be done unless it is financed by public funds. Nor is the fishing industry usually able to find the finance necessary for the investigation of a new resource, and the development of means of harvesting it; even at the exploitation stage support from public funds may be necessary. This is especially likely to be so in the case of developing a fishery on a new species for the food market, and even more likely in the case of developing countries.

Some of the unexploited and underexploited resources are in sea areas adjacent to populous developing countries; as also are resources at present exploited for fishmeal, most of which is exported to the developed countries: about 20 million t/year of the total of 70 million t/year is at present utilized in this way. The resources now being exploited for fishmeal might instead be utilized for direct human consumption in the developing countries, given appropriate technical development and financial arrangements - bearing in mind that the export of fishmeal produces foreign exchange. The production of fishmeal, however, is not expected to decrease, as resources in more remote areas, or more difficult to utilize directly, could be exploited.

Some of the underexploited and unexploited fish resources are in sea areas adjacent to developed countries, for example, in the North Atlantic. Some of the bigger resources, however, are in sea areas remote from centres of population, for example, in the Southern Ocean. Because of the distances involved and the technical characteristics of the raw material, the harvesting and processing of these resources will require large ships and high technology.

The estimated annual yields of the Antarctic krill and of the large oceanic squids are from some tens to some hundreds of millions of tons. There is, therefore, a considerable challenge in the problem of organizing and financing the harvesting of these huge resources for the benefit of mankind as a whole.

Fish farming - more akin in many ways to stock-raising than to the capture fisheries - at present produces 5 million t/year, much of it in tropical and sub-tropical countries. Regional plans developed under the auspices of FAO envisage doubling the production in the next ten years, and it is confidently asserted that a tenfold increase is possible by the end of the century.

Given the nature of fisheries, the location and yields of the various underexploited resources cannot be stated with sufficient precision to allow definite proposals to be made for investment, until exploratory fishing and pilot-scale ventures have defined the technology and given an indication of the number, type and size of ships, etc., required. Specific proposals related to countries and regions cannot be presented at this stage. However, using figures based on existing fisheries, broad estimates on a world basis can be made related to groups of species and products.

A target of 225 million t/year by the end of the century would provide the developed nations with the same total supplies as at present while also allowing the per caput consumption in the developing nations to equal that of the developed nations. Assumptions have to be made as to the contribution to the total of each group of species.

An investment of some U.S.\$ 60 000 million, at 1976 prices, would be required to raise the world fish harvest from 70 to 225 million t/year. This is equivalent to U.S.\$ 2 500 million a year average, or U.S.\$ 400 for every extra ton per year production. The figure includes major technical development, training, and processing plant at the point of landing the fish, but only a very modest allowance for investment in means of distribution. Of this sum, the cost of technical development (about, say, U.S.\$ 1 200 million) will have to be found entirely by governments, together with costs of training (say, U.S.\$ 1 200 million) and a proportion of the investment in vessels (U.S.\$ 36 000 million) and plant (U.S.\$ 15 000 million) that is difficult to forecast but is unlikely to be less than a quarter and might be more.

Expansion of the fisheries for the benefit of the developing countries to anything like the extent herein envisaged, will not take place without deliberate action at government and international levels. There will have to be an expanded programme of exploratory fishing; allied to a new effort in market development in the developing countries; existing programmes of research and development will have to be re-oriented and expanded, and coordinated by FAO. Means will have to be found to supply the expanded production of food from the fisheries to those who need it at prices they can afford, and to stimulate practical action by industry to build up the necessary systems of harvesting, transport and distribution.

1. THE PRESENT SITUATION

1.1 Demand and Supply

1.1.1 World fish production has more than trebled in the last 25 years and may be capable of a further three- or fourfold increase; at any rate, the potential for greater production of protein-rich foodstuffs is significant in terms of world supplies. The present total is about 70 million t/year. It has been estimated, on a basis of trends in growth of population and of purchasing power, and on the assumption that the relative price of fish will not change very much, that the effective demand by the end of the century could be about 150 million t/year.⁽¹⁾ The potential production from the fisheries may be 300 million t/year or more.

1.1.2 Production has been rising fairly steadily at roughly 5 percent per annum for many years (leaving aside the anchoveta fishery off Chile and Peru, which until the fifties produced very little, and rose to a peak of 12 million t/year out of a world total of 70 million t/year, before collapsing in 1971 to 4 million t/year. Catches are now recovering, but the long-term yield will probably average less than 12 million t/year). Fish production in all developing regions was greater in 1974 than in 1973.

The growth in fish supplies has thus been more rapid than the rise in world population. In 1950, the world consumed about 7.2 kg of fish per head of population directly as human food; the average annual consumption over the period 1969-1971 was 11.8 kg a head; this represented about 14 percent of all animal protein, 19 percent in the developing countries. The potential contribution, as has been indicated, is very much greater.

1.1.3 Fish is not universally important as an article of diet, and may never be, but it could be consumed more widely and in greater quantities. The present constraints on growth of demand and of supplies are described later. The harvesting of some underexploited resources could be undertaken with little or no effort by way of technical development, and, generally speaking, less effort of this kind may be required to increase production than to develop suitable products and conduct acceptability trials in the areas where the fish is needed, bearing in mind that they must be available at prices the potential consumers can afford. Some of the underexploited resources are of species familiar to those who already consume fish, but even they may have to become accustomed to some new products and species. Many people are not familiar at all with fish, and effort is required to ascertain what products would be most acceptable to them, given that production can be stepped up, and that the requirements will include ease of transport and low perishability. Because of the need for such development efforts, and the peculiar nature of fisheries in general considered as opportunities for investment, also the location of some of the major resources in relation to the main centres of population, and other factors, all discussed more fully later, the exploitation of the world's latent fishery resources for direct consumption in the developing countries may be slow, if market economy forces predominate and development is left to private interests. However, these are not new or even unfamiliar situations in the world of fisheries.

1.2 Fish as Food

1.2.1 Fish is an excellent source of animal protein and of certain minerals and vitamins, and it is easily digested. It is of special value in the biological upgrading of the vegetable foods that constitute the main sources of protein in some regions of the world.

1.2.2 With a few minor exceptions of a local or seasonal nature, nearly all fish, when caught, are fit for human consumption in the sense that they are not poisonous or infected with pathogens. However, fish spoils fairly rapidly unless steps are taken to arrest, retard or control the processes of change. In many areas fish has become a highly-prized article of diet; in others it is unfamiliar or remains subject to taboo or prejudice. In some countries fish is unacceptable unless presented to the consumer as whole fish, complete with head, viscera, etc. In many countries various species have not been utilized in the past because their appearance is less attractive or less familiar to the consumers than is that of the species to which they are accustomed. Methods of extracting the muscle flesh and manufacturing various food products therefrom are under development; sausage and similar products containing fish are already well known in more than one part of the world. Whether these or less sophisticated forms of processed fish will gain world-wide acceptance is not yet certain.(1)

1.3 Potential

1.3.1 The estimate of the remaining potential of the capture fisheries that has received widest agreement, that by FAO (3), indicates that there still remain unexploited or underexploited resources, of more or less familiar species and sizes, and available to capture by existing technology, that could yield another 30 to 40 million t/year. In addition, it is believed that up to 100 million t/year of deep water mesopelagic species, such as lantern fish, could be taken. The potential yield of squids, of which only one million t/year are taken at present, has been variously estimated at from 10 to 100 million t/year and even much more. Yet another very large resource is the Antarctic krill, the sustainable yield of which may be from some tens of millions to some hundreds of millions of tons a year. The estimated potentials on a world-wide basis are summarized in Table 1 and detailed by regions in 2.2 and 2.3 below, where the status of each resource as regards availability to capture by means already developed, and as regards utilization, is also described.

It remains to say for the present that the estimates of yield are not all based upon direct knowledge of the standing bio-mass, the life cycle and behaviour of each and every component stock, and will be subject to continuing revision in the light of resource surveys, exploratory fishing and commercial exploitation. To the extent that increased production depends upon harvesting a wider range of species, many of which are the food of larger species already being exploited, accurate assessments of the magnitude of the potential harvest will require detailed scientific investigation of the interactions between species. The absence of these studies, however, should not impede initial development of fisheries on unfamiliar species, but careful research and monitoring should be an integral part of any large-scale exploitation.

The yields - whatever they are - may be sustainable in the longer term only if the fisheries can be effectively managed.

The harvesting of some stocks at acceptable cost may not be feasible using existing methods and equipment; however, fisheries technology has been developing rapidly over the last 25 years, and this development has been a factor in the increase of the world catch over the same period. Moreover, the estimates of potential yields are implicitly based, at least partly, on the capabilities of existing technology. It is, therefore, reasonable to assume that the harvesting of an amount equal to the present estimate of total potential yield would become economic through further technical development.

1.3.2 The potential contribution from aquaculture is also very large. It is believed that the present production of about 5 million t/year, of which the People's Republic of China produces no less than 2 million t/year, could be increased tenfold. Much of the scope for expansion is in tropical and sub-tropical latitudes.

In theory, the potential for production of cultivated marine molluscs, such as mussels, is in itself large in terms of world protein requirements. The practical limits will not be set by primary production of the algae on which the mussels would feed, so much as by the number and extent of suitable sheltered and unpolluted sites, with good transport of nutrient material, within economic distances of the markets; or else it will be set by the available variety of and demand for the products.

1.4 Utilization

1.4.1 The developing countries, with about half the world's population, consume about one quarter of the fish supplies, most of it directly as human food. The centrally planned economies, including such populous countries as the People's Republic of China and important fishing nations like the U.S.S.R., and comprising about one third of the world's population, also consume about a quarter of the fish supplies. The developed, market-economy countries contain about one fifth of the world's population and consume about half the fish supplies, much in the form of fishmeal and oil, used respectively as an ingredient of animal feeding stuffs and as a raw material in the production of margarine.

1.4.2 In 1970 as much as 35 percent of the world catch was reduced to meal and oil; in 1973 the figure was about 27 percent; the difference being mainly due to the collapse of the Peruvian anchoveta fishery. Much of the fishmeal, although ultimately consumed by comparatively well fed people in the developed countries, is produced in the developing countries. Part or all of these catches might be utilized directly as food in the developing countries, always provided that acceptable products can be made, distributed and sold at prices the potential consumer can afford.

1.4.3 The production of fishmeal, however, does at least allow a developing country to exploit a self-renewing natural resource without first having to establish a system of distribution and marketing of fish or fish products inland. It is probable that although many resources now exploited for fishmeal may in future be utilized directly for human consumption, the

volume of production of fishmeal in the world as a whole will not decline over the remainder of the century, because the technical and marketing problems of utilizing some of the now underexploited resources may not be soluble in any other way within this period of time.

1.4.4 Fishmeal production has been an important source of foreign exchange for some developing countries. Another is the world trade in luxury seafoods such as shrimp and lobster; in terms of sheer weight of food, the quantities involved in these latter cases are small. Other fishery products in strong demand on world markets include some species of tuna.

1.4.5 The trade in foodfish from the North Atlantic countries to the tropics and sub-tropics - dried and salted cod; cured herring - was formerly very important. Several developing countries have given consideration to participating directly in the North Atlantic fisheries in order to ensure supplies, but in the light of the heavy pressure on the cod and herring stocks, and the impending general establishment of Extended Economic Zones, further development along these lines seems unlikely.

On the other hand, some of the biggest resources, such as the oceanic squids and the Antarctic krill, will probably require for their exploitation sophisticated methods and equipment that, without unusually strong international intervention, will be available only to the developed nations.

1.4.6 Despite local problems of acceptability, it is surprising that fishery products have figured so little up to now in food aid programmes: they represent about 3 to 4 percent of the value of shipments under the auspices of the World Food Programme and less than one percent of the weight of animal products in all shipments of food by way of aid.

1.5 Post-harvest Losses

Post-harvest losses are of several kinds.

1.5.1 Wastage includes discards at sea of edible fish deemed unacceptable in the local market or unprofitable to handle and stow on board and bring ashore. (This occurs mostly in fisheries where the bottom trawl and similar fishing gears are employed: they are comparatively unselective and in many of the sea areas where they are used a number of different species occurs). Associated with catches of shrimp, for instance, may be by-catches of from four to twenty times as much by-weight of fish; in some places much or all of this is discarded. The total discarded is estimated at 5 million t/year, the greater part being in the shrimp fisheries (see Table 1). There are shrimp fisheries in many areas of the world's oceans, including much of the tropics and sub-tropics.

1.5.2 Under-utilization, in the sense that fish suitable for human consumption are instead converted into animal feeding stuffs, has already been mentioned. A special instance of this is that the conventional methods of cutting the edible muscle away from the skeleton - the process of filleting, to which a high proportion of some species is subjected - recovers from 25 to 45 percent of the edible flesh instead of the theoretical 60 to 70 percent; the remainder, with the skeleton, has in the past usually been converted to fishmeal. However, machines now exist that can recover part of the remaining edible flesh in a comminuted form for utilization in a limited number of special products suitable for direct human consumption.

1.5.3 Losses include those due to the imperfections of various processes, but more important are those due to preventible spoilage by autolysis, bacterial action and oxidation. Some products, including the fermented fish sauces of southeast Asia, represent a loss of nutritional value through partial degradation of the proteins.

Other losses are due to infestation and attack by insects and vermin. Losses of up to 50 percent are quoted for some products in some areas, so that the overall efficiency of protein utilization of fish processed into fishmeal and fed to farm stock in the developed countries can actually be as good as that of some traditional products intended for direct human consumption in the developing areas (Table 2). Most of the losses from spoilage and infestation occur in the developing countries and especially where fish is preserved by drying. In these instances it is produced mainly by a large number of small, widely-dispersed efforts. Catch statistics in such situations are less than adequate and figures for losses exist only from a few limited studies. A global figure for losses due to spoilage and vermin sometimes quoted is 5 million t/year, but this estimate is probably subject to much wider error than the estimates of potential additional yield quoted earlier.

2. OPPORTUNITIES AND CONSTRAINTS

2.1 The Characteristics of Fisheries

2.1.1 The expansion of a fishing fleet can be one of the fastest ways of increasing the production of animal protein foods where fish resources allow (even a fairly large and sophisticated vessel can be built in six or nine months). Some capture fisheries produce more animal protein per unit input of fossil fuel than do intensive systems of agricultural production on the Western European model and, where necessary, with remarkably little manpower: 150 tons of fish per man per year, or more. Other major inputs to the capture fisheries are in fairly widespread and ready supply, including man-made fibres for nets. Unlike many agricultural practices, fishing technology - the use of trawls or other gears - can often be easily transferred without major experimental work to adapt it to local conditions. The production unit - a single vessel, or pair of vessels - represents a relatively modest minimum outlay, and the expansion or development of a fishery can thereafter proceed in stages, without prior and irrevocable commitment to massive investment like big irrigation dams or fertilizer plants, except in those rare situations where large new harbour works are essential.

On the other hand, the capture fisheries are subject to greater risks and uncertainties than most other systems of food production, and these are described more fully later below. Some of the risks could be reduced by better resource management, and it is possible that governments may feel justified in making more effective efforts in this direction after the imminent general extensions of national fisheries limits. Other risks will remain. These risks and uncertainties have always constituted an important impediment to investment by external private sources.

2.1.2 In this sense, fish farming resembles more closely the raising of land animals. It has, however, some important advantages. In some circumstances it can produce in a given time several times as much animal protein per unit area as normal stock raising. In any case many systems of aquaculture make use of ponds, lagoons, inlets and artificial impoundments that would otherwise not be utilized for food production, or at any rate would be underutilized. Farmed fish convert supplementary feeds more efficiently than do pigs or chickens and in some cases consume a smaller amount of sweet water per unit output than do cattle. At the same time, fish farming can be a good way of utilizing surplus organic wastes from agriculture and stock-raising.

2.1.3 Some species of fish, because of small size, bones or other characteristics, are difficult to sell for human consumption in the fresh, whole form, but processes are under development which may facilitate their utilization. (2) The need to ascertain which fish and fish products are acceptable to the potential new consumers has already been mentioned. Part of the problem is that some of the people who are in most need of a greater amount of animal protein in their diet live in places with poor communications, or have little purchasing power, so that existing supplies rarely or never reach them; or else they are unfamiliar with fish for some other reason. This situation can be improved by greater efforts to develop new products, with special regard to ease of transport, storage life and cost. Generally speaking, the existence of a fishery that is capable of expansion does not in itself justify the construction of a road network, although its development can be

accelerated if more effective systems of transport to the hinterland are established. FAO is studying the possibilities for cheap, easily-stored, easily-transported, mass produced fish products, and one or two are under-going field trials. 2
W

2.1.4 The techniques of harvesting or production are in much less doubt, although for one or two major latent resources, detailed later hereunder, they do require a substantial development effort.

2.2 The Regional Approach

2.2.1 Most of the present catch of marine fish is taken in the waters overlying the continental shelves. Fish stocks are no respecters of national boundaries and fisheries limits, and in many cases this makes it desirable to adopt a regional approach to the development of the fishery, certainly to its subsequent management, i.e. control of fishing effort and allocation of catches.

2.2.2 However, some of the larger unexploited resources occur in international oceanic waters, and others in the Southern Ocean, remote from the regions where the potential consumers live. Even some of the under-exploited stocks on the continental shelves - such as, for example, those in Patagonian waters - are located several days' journey by ship from the nearest large centres of population.

Societies of hunter-fishers lived near to where they could find abundant fish, but most of the world's population is descended from peoples who have long been pastoralists or agriculturalists; the geographical distributions of the world's human and fish populations are, therefore, very different.

2.2.3 Moreover, some of the larger unexploited fish resources will require high technology for their harvesting and initial processing, although it is possible that they may be consumed, at least in part, in the protein-hungry developing countries, provided that acceptable products can be made available at prices the potential consumers can afford.

2.2.4 Thus, even a regional approach to the task of exploiting more fully the world's potential for food production from the sea is by no means adequate; a global approach may be needed. In what follows, the technical aspects of exploiting the opportunities for increased fish production will be discussed on the basis of the classification of Table 1: by broad groups of species which each tend to be associated with particular sorts of technologies for harvesting and utilization.

However, in brief summary it can be said that there are opportunities for expansion of fish production in most regions - even off the west coast of the U.S.A. and in the waters of the North Atlantic.

Further south, increases in yield of 1 to 2 million t/year are believed to be practicable in the East Central Atlantic (Morocco and Mauritania). (Incidentally, the existing fisheries in this area are conducted mainly by distant-water vessels from Europe, Asia, the Middle East and other parts of the world, and development of the capability of the coastal states to prosecute these fisheries is a possibility). Another

1 to 2 million t/year can probably be taken in the Southeast Atlantic (Angola); in this area, as in the one previously mentioned, the opportunities are confined to the smaller, less immediately attractive species such as anchovy.

Of the estimated 5 million t/year of unharvested fresh water species, a large proportion consists of small-sized fishes occurring in the rivers and lakes of Africa. The additional sustainable yield from Lakes Victoria and Tanganyika together probably amounts to over half a million t/year.

Another 1 to 2 million t/year, or more, can be harvested in the Arabian Sea (Somalia, People's Democratic Republic of Yemen, Pakistan, India). There may be 2 to 4 million additional t/year in the Bay of Bengal (India, Bangladesh, Burma, Malaysia), and another 4 million t/year or more in the sea areas from Indonesia to the South China Sea (Indonesia, Philippines, Thailand, Malaysia, Cambodia, Vietnam, China). Southeast Asia is where traditional systems of fish farming are most fully developed, but there is still scope for expansion.

There may be an additional 1 million t/year of fish and squids in the Southeast Pacific (Chile and Peru) and another 1 million t/year of fish off the west coast of Mexico. Latin America is also another region with potential for development of aquaculture. In the Caribbean Sea, about 1 million t/year of additional catch is believed to be available in the sea fisheries. In the Southwest Atlantic (Brazil, Uruguay, Argentina) an additional yield of up to 5 million t/year is believed possible.

Some of the remainder of the underexploited or unexploited marine fish stocks are on the continental shelves of the developed countries. The major resources, however, virtually untapped or only very lightly exploited, are in the open oceans or on the continental shelves of Antarctica and the remote islands of the Southern Ocean.

2.2.5 More precise statements of the location and estimated sustainable yields in the various regions, which could be used to support detailed investment proposals, can only be made after the necessary scientific investigations have been carried out, including exploratory fishing and resource surveys. Apart from one fairly comprehensive survey of the Caribbean Sea, it is only comparatively recently that such activities have been put in hand on a regional or global basis: the FAO/UNDP Indian Ocean Programme has been active in this sense only since early in 1975, as has the South China Sea Project; the Southern Ocean Project is as yet only at the beginning of the Preparatory Assistance Phase. In the past, effort has been concentrated upon immediate opportunities such as the development of coastal fisheries close to populated areas, on development of those fisheries capable of producing foreign exchange, and on improvement of subsistence and artisanal fisheries; funds have normally been available in the past on a national rather than on a regional or global level.

The present estimates of potential additional yields are based only to a small degree upon exploratory fishing and physical surveys - the minority of instances where there has been activity of this kind at national level or by commercial organizations, and where the results are accessible. The estimates are based rather upon a knowledge of the biological productivity of the areas of ocean under study, of catches in

apparently similar areas where the fisheries happen to be more fully developed, and of the abundance, where ascertainable, of the predators on the species of interest. Much exploratory fishing remains to be done, although exploitation need not wait until it is complete.

2.3 Resources, Technology and Markets

2.3.1 Marine Demersal Species

Demersal species of fish usually have white, lean flesh and store most of their fat reserves in the liver. Underexploited resources are to be found on the continental shelves in various regions including the Southwest Atlantic, the Caribbean, the Arabian Sea, the Bay of Bengal, off Indonesia, the Philippines and the mainland of southeast Asia, and in the Southern Ocean, as well as off North America, Western Europe and the Southwest Pacific.

Adequate technology for harvesting, processing and preservation exists. What is still required is the identification of suitable products and market areas, and the establishment in some cases of the necessary systems of transport and distribution. In some, but not all, cases, because of the distances of the fishing grounds from centres of consumption, or due to the weather, relatively large and expensive ships will be required (e.g., off Southern Patagonia); this implies that considerable aid may be required by some developing countries by way of joint ventures, technical assistance, training or management support. If the products are to be consumed mainly in the developing countries, the increased production may have to receive initial support as part of a broadened concept of food aid, until such time as the consumer, or at any rate, the country, is able to bear the whole cost.

2.3.2 Small Pelagic Species

These are usually oily, short-lived, and often occur in very large shoals. Resources are available in the Eastern Pacific (Peru, Mexico), the Eastern Atlantic (Morocco, Mauritania, Angola), the Arabian Sea and the Western Indian Ocean (Somalia, People's Democratic Republic of Yemen, Pakistan, India) and the Bay of Bengal and Eastern Pacific Ocean (India, Sri Lanka, Malaysia, Thailand, Indonesia).

Techniques of harvesting are well understood. Some species are already utilized in the dried or salted form in some of the countries mentioned, but an increase in supplies would give rise to problems of transport and development of new markets. They can, however, be rendered into fishmeal and oil in the initial phase of development, and one potentially attractive option, thereafter, is to produce fish protein concentrate Type B, a dried powdered product requiring the same sort of intermediate technology as fishmeal. Acceptability would have to be determined by market trials. Investigations on this and on other possible products have been started by FAO.

2.3.3 Molluscs

The major opportunities for increases in production are in aquaculture - see below.

2.3.4 Cephalopods

Some underexploited resources of squid exist on the continental shelves in various regions, the techniques of harvesting these smaller species are reasonably well understood, and the main problem, once again, would be market acceptability in the developing countries (most of the present squid catch is eaten in Mediterranean countries and Japan).

Little is known about the large oceanic squids, except that the resource seems to be very big and forms an important constituent of the diet of the sperm whales which range over the world's oceans. Little is known about the detection and capture of these squids; research is required, but since the resource is oceanic and interest in squid as a food is at present limited, the research effort may never develop or may be too small in relation to the very great potential importance of the resource, unless special arrangements are made on an international level.

2.3.5 Mesopelagic fish

These occur in layers in deep water off the continental shelves, and, therefore, often beyond the limits of 200 mile Extended Economic Zones, in both tropical and temperate latitudes. There is a little experience of harvesting them which suggests that, even if further technical development is required, this will not be difficult or protracted. The main question may be how best to utilize them, other than as fishmeal, and, in the case of the resources lying outside national limits, who is to benefit? Comparatively large fishing vessels are probably required, so that the same remarks regarding joint ventures, technical assistance, training and management support apply as to the distant-water demersal resources on the continental shelves; indeed, the type of vessel required may be very similar.

2.3.6 Krill

Various species are known as "krill", they are all small crustaceans that tend to occur in very large numbers in high latitudes. The Antarctic krill, Euphausia superba, is a shrimp with an average overall length of 35 to 40 mm and a recoverable flesh content of about 20 percent. It is the food of baleen whales and various other species; the great whales alone were estimated to have consumed 175 million t/year in 1939. A sustainable yield of 150 million t/year is now believed to be available, mainly in the Scotia and Weddell Seas, very remote from centres of population. It occurs in dense swarms; means of harvesting are not fully developed but recent trials are promising; the problem may be long-range detection of those swarms large enough to give economic rates of catch. Development of products is still in the experimental stage. Krill spoils very quickly after capture and must be processed on board the catching vessel; its harvesting and processing will require high technology. Small quantities may be consumed directly as luxury products in Japan, but the bulk of the resource could be utilized only as fishmeal or as a source of bulk protein that could be used as a raw material for the manufacture of various food products including, as in the U.S.S.R., fishpastes. Some of these products might be consumed mainly in the developed countries, and, indeed, the costs of production may be such that this would be the obvious commercial choice at least in the initial phase of exploitation, although this remains to be

secn. Even then, the result might be to make it possible to release more grains and pulses for consumption in the developing countries. However, it may be that products acceptable to consumers in the developing countries can be made from the krill, and made available to them at prices they can afford. Much research and development is needed, and considerable study and investigation, on how best to utilize this very large potential food resource. So far, efforts have been at national level (U.S.S.R., Japan, Chile, The Federal Republic of Germany, and soon Norway and the United Kingdom) with FAO developing a coordinating role.

2.3.7 Fresh Water Species

Underexploited and unexploited resources are scattered over various parts of the developing world. Attempts to increase production would not be handicapped for lack of well developed and effective methods of capture, although these are by no means in general use. Development work may be needed on drying very large quantities of small fish by low cost low technology or intermediate technology, and on other products that may be more acceptable to those not familiar with fish. The main factor affecting rate of development may be communications with the hinterland.

2.3.8 Post-harvest Losses

In principle, there is no problem in reducing losses by the use of refrigeration (ice) and by making containers, stores and transport proof against insects and vermin. Whether in many cases the cost can be justified, remains an open question awaiting detailed studies. The main problem is that the fish and fish products most susceptible to damage are produced in small quantities in a great number of widely-scattered locations. Where preventive measures are found to be economic, a large number of very small investment projects, supervised and encouraged by extension workers, can be envisaged.

2.3.9 Discards at Sea

Most of the discarding of by-catches at sea is believed to take place in shrimp fisheries in coastal waters of the tropics and sub-tropics. The shrimp trawlers are often very small vessels operating from many scattered centres along the coast. In some cases, the enterprises prosecuting the shrimp fisheries are forbidden to land their by-catches because they would be in competition with the local, traditional, artisanal fishermen; the need is to develop new markets in the hinterland. Until it has been established that the potential consumers in the hinterland will accept this fish, and in what form, it is impracticable to make marketing of the by-catches in the hinterland a condition of the licence to fish for shrimp.

In other cases, the problem is that of collecting from various landing places along the coast a weight of fish several times that of the shrimp.

FAO has begun a study of these problems. One option among several under consideration is to utilize the by-catch where it is landed, as feed for livestock.

2.3.10 Aquaculture

Although most of present day fish farming is based on species that are also exploited in the capture fisheries, there are many basic differences between hunting and farming. The most important is that yields in aquaculture are more predictably dependent upon inputs and on the efficiency of the techniques employed. Yields can vary from a few hundred kilogrammes to as much as 20 tons per hectare. Aquaculture, therefore, resembles agriculture in many respects.

Although cultivation of fish and shellfish has been practised for many centuries, aquaculture has only recently attracted much effort by way of systematic research and development. Considerable research and experimentation are still necessary to improve further the existing technology, and to evolve new techniques for new species and new situations. However, even in its present state of development, aquaculture contributes 5 million t/year to world fish production and even now is capable of considerable expansion.

Expert assessments, and the actual rate of increase of production, indicate that a five- to tenfold increase, or more, in output is already within our capabilities. This increase would result from (i) the expansion of areas under cultivation; (ii) detailed improvement of production techniques, including dissemination of existing good practice; and (iii) the development of new systems. The area under aquaculture is estimated to be about 3 to 4 million hectares, and this can be expanded about ten times, over about 3 or 4 decades, if the necessary inputs are made available. It has already been shown that production per unit area or volume of water can be improved at least two- or threefold in a relatively short period of time. As for the development of new techniques, the appearance of new systems in sub-tropical and temperate climates, such as raceways and floating cages, and the use of thermal effluent to increase the rate of production, indicate that if the considerable research effort now being devoted to this field in a number of countries is strengthened and coordinated, a number of useful new systems and techniques could be developed in the next few decades.

2.4 Constraints on Development

2.4.1 Some of the factors inhibiting increase in fish consumption in developing countries have already been mentioned: the need for transport from landing places, harbours and fish farms; the present doubt as to whether in all cases, acceptable products can as yet be made available and, if so, at prices the potential consumers can afford; the limitations of local fisheries technology.

In the case of the major resources in the open oceans and in the Southern Ocean, it is not clear who will develop and exploit them, who will consume the products, and who is to pay. Even in the conventional fisheries, there are risks and uncertainties which inhibit investment by normal sources of finance; this aspect will be discussed more fully in Section 3, following. Financial constraints, however, may not be the limiting factor in the expansion of fish production in all cases.

2.4.2 Fish and fisheries are held in low regard by some societies and are unfamiliar to many; fisheries, therefore, tend to get less attention from governments than their potential would warrant. Even if the country possesses capable administrators, scientists, engineers and other technologists, they may not be made available for fisheries development. There is also a scarcity of competent commercial and operational management: *like what?* fisheries have unusual characteristics that make certain qualities and experience in the manager essential for success. In countries with little or no tradition of commercial fisheries, it is not always recognized that these attributes are necessary, or how long they take to acquire.

These considerations could mean - although it is not asserted that they do so in every case - that the potential for food production from the capture fisheries will not be fully realized by some coastal states unless they institute a phase of joint ventures with foreigners possessing the necessary skills, experience and motivation, at least until such time as they can produce similar people from among their own nationals.

2.4.3 There is already among several long-established fishing nations a scarcity of skilled fishermen. It is not at all obvious that some coastal states will be able to produce, in the short run, enough men able and willing to go to sea in small ships, and with the necessary motivation to remain at sea and fish hard until they have taken a good catch. Where such men are available but scarce, it may only be possible to exploit the fisheries to their full potential if mechanization is adopted to the same high degree as in some developed nations, notwithstanding any general national policy preference for labour-intensive industries.

2.4.4 Lack of spare parts and of competent servicing facilities for mechanical and electrical equipment are frequent causes for complaint in existing mechanized fisheries in developing countries. In some cases, the spare parts problem is artificial to the extent that it is due to arbitrary application of regulations restricting the availability of foreign exchange.

2.5.5 The capture fisheries have maximum sustainable yields set by biological factors, but so far this is an effective constraint mainly for some stocks in the northern temperate zones. However, the temporary collapse of the North Atlantic herring fishery and the anchoveta fishery off Chile and Peru should be taken as warnings against overinvestment. To ensure continuing exploitation at or near the maximum sustainable yield, in the longer term, requires good management of the fisheries, which in turn depends upon, among other things, good statistical and scientific information on the fishery.

2.4.6 An important constraint on the rate of development of the fisheries is the shortage of professional experts. There are also shortages of experienced administrators, commercial managers, extension workers and trained operators. These remarks apply equally to fish farming.

2.4.7 Other constraints on the rate of development of aquaculture, apart from lack of finance, include various misconceptions among those responsible for policy and decision making. It is widely believed that aquaculture is still entirely in the experimental stage, that it is uneconomic and that it will be applicable only to luxury foods, whereas, in fact, it is well established in some regions and in some cases can produce animal protein foods at least as

cheaply as land based stock raising or capture fisheries. It is true that to realize the potential will require a larger and better coordinated effort in development work and supporting research. Lack of a strategy for developing aquaculture, within the framework of national fishery plans, is a major constraint on development.

Yet other constraints include conflicts between aquaculture and other forms of water use, most of which would be resolved by better informed planning. Finally, pollution is limiting the development of aquaculture in some areas and will continue to do so if appropriate measures are not taken.

checked?

3. INVESTMENT FOR INCREASED PRODUCTION

3.1 Factors Affecting Investment

3.1.1 Investment in fisheries for supplying food to local inland populations has usually been a consequence of general economic development rather than a prime contributory cause: the development of a trade in fish as a regular article of diet for populations in the hinterland has usually followed the establishment of the necessary infrastructure such as communications networks and, furthermore, has not usually taken place until there has been the necessary growth in purchasing power.

Investment in fishery enterprises does not often occur unless there is an already established, assured market for the product as well as a readily accessible resource for exploitation. The reason is only partly the time and expense of gaining acceptance of an unfamiliar food product. There are very high risks associated with capture fisheries, which will probably continue to be the greater source of supplies.

3.1.2 Capture fisheries involve small ships, often operating in sea areas notorious for bad weather; and little understood skills. They are sensitive to changes in the oceanographic situation, in weather patterns, and in biological factors, over none of which has man any control. The managers of the enterprises have little or no control over their sources of raw material, and if the resource is common property and there is free entry to the fishery, the average profit over the whole fishing fleet tends to zero. High profits can be made in the early days of a virgin fishery, but tend to encourage overinvestment. In a mature fishery, only the more competent fishermen and vessel owners will do well, and even they may operate at a loss in bad years when fish is scarce or markets poor. Traditionally, the ownership of the catch, which is perishable, changes hands at the ship's side; the net profits of the whole operation tend to be made in marketing and distribution, although the major capital investment, and most of the risks, physical as well as financial, are in the seagoing part of the system. The prices obtainable for fish in many instances are controlled by those of competing foodstuffs.

Conventional sources of finance therefore tend to regard fisheries as difficult and unknown country. They are equally a mystery to the average entrepreneur, industrialist and professional manager, and also to civil servants.

Because marketing and distribution activities are usually the more profitable in the longer term, and conversely because the enterprises engaged in the fish trade sometimes wish to secure their sources of supply, a certain amount of vertical integration has taken place in recent years, both in the private sector and in some parastatal organizations. A more fundamental approach to reducing the risks in fishing operations is better and more rigorous management of the fishery, especially as regards restricting entry of additional fishing vessels and allocation of catches. This however presupposes national jurisdiction over the fishery, or some international regime to which all interested parties submit. Even then, the natural risks remain high.

3.1.3 Because of the high natural risks and the general lack of fully effective management, it is accepted, at least implicitly, that fisheries are a proper subject for subsidy by the state, including cases where they are undertaken by state corporations.

A clear distinction therefore cannot be made between public investment in infrastructure such as harbours, roads etc., and "private" investment in systems of production such as fishing fleets. Even when the latter are nominally in private ownership, they or their suppliers more often than not receive subsidy or support in one form or another.

In any event, the finance for development, as well as for replacements, tends to come from within the industry and its suppliers or those it supplies, rather than from financial institutions. Even in market economies fisheries do not attract investment funds except in those few favourable instances where the source of supply of raw material is secured and there is an assured market.

3.1.4 One form which state support for fisheries takes is research and technical development. Almost all scientific research, and a good deal of the technical development and market research, are undertaken by governments even in mature fisheries. The reason is partly that fisheries embrace a very wide range of sciences and technologies and are nowadays in a continual state of change and development, whereas the individual enterprise is usually very small by the standards of most industries. The technology required to harvest and process some of the resources is fairly advanced even by twentieth century standards; the market requires considerable effort to develop; assessment of the fish stocks is scientifically demanding and their management a national or international matter.

3.1.5 In the light of the foregoing it can be assumed that expansion of the food fisheries will depend very largely upon the initiative of governments and upon public investment in research and development, including marketing trials and investigations. (4)

Experience indicates that experimental work has to be taken to the stage of full scale trials and demonstrations before the managers of commercial enterprises feel justified in embarking upon new ventures. It may well be that even in market economies, investment in expanded food fisheries will have to be stimulated by injection of public funds on favourable terms. In the case of some developing countries, funds would have to be provided from international sources.

3.2 Scale of Investment and Trends

3.2.1 Statistics on investment flows into fisheries are not available on a world or regional basis. Only some countries maintain statistics on size and composition of fleets, and on new construction; some on capacity of cold stores, ice plants and other equipment. Any estimate of the amount of new investment in any given year, derived from collation and analysis of such published information as is available, would relate mainly to the more developed countries, and even then only to the larger and more expensive classes of fishing vessels. An estimate of the total investment in world fisheries at present might be arrived at by the methods used herein later below to estimate the requirements for additional investment, but only if further assumptions were made about the ages of vessels and level of technology employed. It is believed, however, that world catching capacity is still increasing.

In some fisheries there is overinvestment in catching capacity, in the sense that the same total catch could be taken by fewer vessels. The redeployment of the spare capacity, even if technically feasible, would raise many political and financial problems.

3.2.2 The last 25 years have seen the development and adoption in some fleets of very large oceangoing fishing vessels and support ships capable of operating in all areas of the high seas; the general trend has been for consumer countries - one exception being the United States of America - to acquire their own capability for harvesting those resources which yield the fishery products they prize most. In many cases, however, the productivity of oceangoing fishing vessels in terms of capital, manpower, fuel and other inputs, is less than that of much smaller deepsea vessels based on harbours in coastal states adjacent to the fish resources. For this reason, therefore, as well as the impending extensions of national fishery limits, it can be assumed that by the end of the century most resources on the continental shelves will be harvested by vessels based on ports in the nearest coastal state, operated either by local enterprises or by joint ventures.

3.2.3 An estimate of official international development assistance in the fisheries sector in 1974, prepared for FAO's Committee on Fisheries, includes the information reproduced in Table 3.

3.2.4 Any review or analysis of historical data on investment in fisheries in developing countries would have to make a distinction between investments for food production in and for these countries and investment related mainly or wholly to producing fishery products for export to developed countries. Much local and external investment, including that by the Development Banks, has been for the production of relatively small quantities (in terms of weight) of high-value fisheries products for export: shrimps and other crustaceans, some species of tuna, bait fish for tuna fishing, and also fishmeal. The earnings of foreign exchange may or may not have been ploughed back, directly or indirectly, into the production or procurement of food. The establishment of a capability for mechanized fishing for shrimp does not necessarily lead to the production of more fish for local consumption, although it does increase the local potential for fish production; either the entrepreneur can not, with his own resources, tackle the problems of marketing and distribution inland, or else he has been discouraged from landing foodfish in case he saturates the local market supplied by the traditional fishery.

Again, some investment and technical assistance in the past has been directed primarily to improving the standards of living of fishing communities operating at the subsistence or artisanal level, albeit through increasing their productivity. Such efforts will have only a limited effect on world fish supplies, and no impact upon the major latent resources.

3.3 Types of Investment Required

3.3.1 Productive capacity - including trained manpower - will represent the heaviest demand on investment funds in any programme to increase fish production in or for the developing countries.

As remarked earlier, in many instances part or all of the invested funds would come from the industry itself where this is possible, but in many cases will have to come, at least in part, from the public sector, including international development funds. In addition, there will have to be investment of other kinds, or prior expenditure, if an increase in production of more than, say, 20 million t/year is envisaged; this figure is perhaps the most that could be utilized without deliberate efforts to develop additional markets and transport links; moreover, for some potential resources, research and development is required on harvesting or production, and on processing.

The present efforts, however, are neither comprehensive nor coordinated, and are not necessarily aimed directly at increasing food production for the developing countries; moreover, as remarked earlier, the amount of effort at present expended on the major latent resources is not commensurate with their potential importance as sources of animal protein foods.

3.3.2 The research and development required includes technical development of the means of harvesting or production, in the case of krill, and for exploiting some kinds of opportunity for aquaculture; also for the oceanic squids, where however no programme of technical development is likely to succeed without prior research. Technical development, supported by research, is also required on the processing of some resources into acceptable products, including krill and squid, but also a large proportion of the underexploited potential of more conventional species.

A large effort is needed to ascertain the acceptability of new species and products, and of both new and existing products in areas unfamiliar with fish. Marketing trials and preliminary costings would be followed by quasi-full scale trials and demonstrations, which in favourable cases would lead to investment in commercial systems, supported by extension work.

Such technical development, market acceptability trials, pilot-scale projects and extension work are unlikely to take place in the context of fish production for the developing countries unless funded from public sources, and accorded strong international support by way of technical assistance, management expertise and coordination.

3.3.3 It is less obvious whether much investment from public sources will be required in the commercial distribution and marketing of fish, once the necessary pilot schemes have demonstrated the possibilities. It might be needed, for example, if there was a requirement for long-distance transport of fish by insulated or refrigerated railway wagons, as has been suggested for the supply of marine fish to Calcutta from the east coast of India. However, fish and fish products are transported on foot, by bicycle, by handcart, animal transport, truck, train, boat, ship and aeroplane; they may be sold at the side of the road or from a deep-freeze cabinet in a supermarket; or ready-to-eat in a restaurant or from a street booth; most or all of these systems can be found in both developed and developing countries. A large proportion of the fish products likely to be distributed in the hinterlands of developing countries will be designed for transport by local carrier or bus, and for storage under ambient conditions, so that no special investment will be required.

Since the transport, distribution and retailing of fish are usually competitive but nevertheless quite profitable, investment in this part of the system is more likely to be forthcoming from the private sector than is investment in means of production. Moreover, marketing and distribution are likely to be undertaken by a very large number of small enterprises in many cases. However, some degree of vertical integration may arise as a result of deliberate policies.

3.4 Investment Requirements: General Assumptions

3.4.1 In order to arrive at a preliminary estimate of the investment required, some production target must be assumed, and further assumptions have to be made about the relative contributions of the capture fisheries and aquaculture; of various fish stocks in the capture fisheries; and about the forms of the products and the types of fishing vessel and processing plants required.

3.4.2 One production target, still well below the ultimate potential, is 225 million t/year; the derivation of this particular figure from targets of per caput consumption at the end of the century, and the assumptions regarding the allocation of the total catch between developed and developing countries, are set out in section 4 below. An implicit assumption is that there will be a deliberate effort to increase the trend of fish production above that indicated in the estimate of effective demand quoted in 1.1, so that more of the potential production of 300+ million t/year would be utilized than is implied therein.

3.4.3 A total production of 225 million t/year might be made up as set out in Table 4 (cf., Table 1 and see text 1.3, 2.2, 2.3). Of this, 70 million t/year are already produced: 5 million t/year from aquaculture and the rest from the capture fisheries. The amount utilized as fishmeal might remain about the same as at present.

3.5 Investment Requirements: Capture Fisheries

3.5.1 First costs of fishing vessels vary widely with country of construction and materials used. Estimates of average prices of new vessels of various types in 1976 are given in Table 5a, together with the average annual catch believed to be attainable by each type. The estimated prices of various types of installation for processing or preserving the catch at or near the point of landing are given in Table 5b, expressed as a capital cost divided by the annual throughput of the plant in tons of fish.

3.5.2 The contributions to the increase in production required from the various capture fisheries at present underexploited are set out in Table 6a together with the numbers of vessels required and first cost at 1976 prices. The corresponding investment in trained manpower and extension workers is set out in Table 6c.

3.5.3 The estimated investment in processing plants, etc., is set out in Table 6b. This is based on various assumptions about types of product and the level of sophistication of the processes employed; one major assumption is that world production of fishmeal for animal feeding stuffs will continue at about the present level, but at new locations and using new plants. The investment for upgrading the utilization of that part of the present catch now turned into fishmeal (about 20 million t/year) has therefore been included.

3.5.4 Experience in FAO and the Development Banks indicates that in some situations the cost of complete port installations can equal the cost of the fishing fleet (cf., Tables 6a and 6b). However, only the specialized installations are usually regarded as a charge on the fishery industry; in cost/benefit analyses, the harbours, roads, water supply schemes, housing, schools, hospitals, etc., are regarded as a contribution to the general economic development of the district.

3.6 Investment Requirements: Aquaculture

3.6.1 Two main levels of aquaculture can be envisaged, although there may be intermediate levels too: large-scale enterprises, with comparatively large capital outlay, centralized management and a certain degree of vertical integration; and small-scale operations ranging from subsistence farming by individual family units to small production units operated as a part-time or off-season occupation by small farmers or fishermen. The small-scale operations

lend themselves very well to integration into rural economies and can have an important role in rural development; like other fishery enterprises, they help to provide a counterpull to the processes of urbanization. The success of small-scale fish farming would depend very largely on the effectiveness of supporting services including technical assistance, extension services, and credit provided by the state, including some necessary inputs provided on credit. Large-scale operations may also need some of the supporting services but may be able to attract external finance more easily; however, appropriate incentives will have to be provided by the government.

3.6.2 In aquaculture as in other types of fishery enterprise, pilot-scale operations to test the economic viability of the different types of culture systems that might be adopted in a given district, and to demonstrate the techniques, are of special importance in stimulating commercial enterprise and attracting investment.

3.6.3 Through regional workshops organized by the UNDP/FAO Aquaculture Development and Coordination Programme, in Africa, Asia and Latin America, national ten-year development plans for fish farming have been prepared for 32 developing countries. The combined target is 5 million t/year, and it is estimated that world production would be further enhanced by similar increases in other countries. Most of the countries attach the greatest importance to small-scale operations as part of integrated rural development programmes, but there is also interest in large-scale production for export. Finance is required to procure land and construct ponds or other culture facilities; and also for establishing facilities for research, training and extension work, and the production and distribution of such inputs as seed, feed, fertilizers and pesticides. Supervised credit linked to extension services will be needed for the operation of the enterprises.

3.6.4 There are obvious difficulties in making accurate estimates of the magnitude of investment required at this stage. Very roughly, of the 5 million t/year increased production, one fortieth may be high valued species, the costs of production of which may be around U.S.\$ 750/ton; the remainder may cost around U.S.\$ 150/ton to produce. The total investment associated with these figures has been estimated at U.S.\$ 385 million for 5 million t/year including price of land. About 9 000 technicians, 1 000 aquaculturists and 100 high level specialists will have to be trained during the next ten years, and about U.S.\$ 60 million will be needed to strengthen research, training and information exchange. A good part of these sums can be expected to come from national resources, but most developing countries will also need finance from external sources to facilitate rapid development. Regional and inter-regional programmes of cooperative research, training and information exchange are essential to the development of aquaculture and will require multilateral or bilateral financing.

3.7 Investment Requirements: Marketing and Distribution

3.7.1 As indicated earlier, marketing and distribution of the increased supplies of fishery products will in many cases attract a large number of small enterprises, and their need for capital may be very small. In other cases, e.g., a cold chain, fishery products may not be the only ones handled. No attempt has been made to estimate investment requirements for this part of the system, so that for this reason the total figure quoted below is on the low side.

3.8 Preparatory Expenditure

3.8.1 The exploitation of many of the opportunities indicated above cannot or should not be undertaken unless and until the necessary applied research and technical development have been carried out. Concurrently with investment in those cases where commercial operations can begin more or less as soon as the necessary finance can be found, these preparatory activities should begin. They will include exploratory fishing aimed at identifying the most effective methods and equipment for harvesting the resources; technical development of methods of catching and processing on board in some instances; acceptability trials of both old and new fishery products, supported by product development, and followed by pilot-scale marketing. These activities will provide the inputs for systems analysis, costs and earnings studies and investment appraisals.

3.8.2 The preparation of possible programmes of such activities has, in some cases, only just begun, or has scarcely yet begun. However, on the basis of past experience of development of new high technology in the fisheries, it can be assumed that costs of development and associated activities might be very roughly 2 percent of the eventual initial capital investment in the new systems. Considering the very broad and tentative nature of the estimates of requirements for capital investment, such a sum is well within the range of possible errors. However, the necessary work may not take place unless deliberate provision is made, so research and development are included in Table 7 as a separate item.

3.9 Assurance and Contingencies

3.9.1 After the initial capital investments have been made, continuing support is of course necessary by way of research and detail development, advisory services and the like. One form this must take is the monitoring of the state of the stocks, and the study of their distribution, abundance, life cycles and behaviour, together with studies of the effects of fishing, in order to provide a sound basis for management of the fisheries. In some countries the continuing expenditure on research and development is as much as U.S.\$ 5 per ton harvested or more.

3.9.2 For reasons outlined earlier, governments also have to provide direct support to their fishing industries. It cannot be assumed that new fishery enterprises will be financially viable in every case, any more than are all existing fishing fleets. Judging by some recent Western European experience, the support required might be as much as U.S.\$ 10 per ton of fish caught and landed.

3.9.3 If these forms of support had to be provided to this extreme extent not from revenue but by interest earned on other external investments, and if this was 5 percent per annum, the investment related to increased production in the capture fisheries might have to be increased eventually by roughly U.S.\$ 45 000 million. The use of internal revenue and profits to support essential food industries and services is, however, seldom expressed in so extreme a fashion.

3.10 Investment Requirements: Global

3.10.1 In Table 7 the various requirements are listed and totalled. It will be seen that to increase world fish production from 70 million t/year to 225 million t/year an additional initial investment in capital equipment, manpower and technical development is required of something around U.S.\$ 60 000 million at 1976 prices (see however 3.7.1 above), or about U.S.\$ 400 for every 1 t/year additional output, on average.

3.10.2 This does not include the requirements for replacement of the systems producing the present 70 million t/year as they become obsolete or near the end of their economic useful life.

The useful life of a ship is 15 to 20 years, so that if an accelerated programme of fish production began in 1980, some of the capital equipment purchased near the beginning of the programme would need to be replaced shortly before the turn of the century. No sum has been included for this in Table 7, either for equipment used in capture fisheries or for aquaculture (some of the capital in aquaculture is invested in land).

3.10.3 With the foregoing provisos, it would seem as if a world production of fish of 225 million t/year (an additional 155 million t/year) could be achieved by the end of the century with additional investment at an average rate of not less than U.S.\$ 2 500 million a year at 1976 values. (Cf., U.S.\$ 16 000 million annual rate of investment in agriculture in developing countries.)

4. DEVELOPMENT POLICY AND PROGRAMME

4.1 Development Mechanisms

4.1.1 Few new fisheries enterprises are nowadays established without at least strong encouragement and support from governments; in the case of developing countries, assistance of various kinds is usually required from bilateral or international sources also. This will be even more true of the exploitation of much of the remaining potential, and especially if this is directed toward production of food for the developing countries.

4.1.2 Even if there may be cases where the proposed new enterprises are believed to be commercially profitable, in which cases provision of capital may be less of a problem, it is more than usually difficult, in fisheries, to predict costs and earnings with any degree of confidence unless there have been full-scale practical fishing trials and thorough market investigations, including, if necessary, product acceptability tests. Such preparatory investigations are expensive, and a major constraint on the rate of fisheries development has been the lack of resources to mount such trials. Governments are often the only possible sources of funds for testing the operational and commercial viability of proposals for investment in fisheries.

4.2 Production

4.2.1 The fisheries offer a very large potential for expansion of production of animal protein foodstuffs for the developing countries. Harvesting of much of this presents no technical problems, and where there are problems, these appear soluble in the short term, except perhaps in the case of oceanic squids.

Development of products and markets is required, but there is a large variety of possible products suited to the conditions of marketing and distribution in developing countries.

4.2.2 Because of the general need in the developing countries for technical assistance, management support and capital, and more especially because some of the underexploited fishery resources are in oceanic areas or in seas remote from centres of population, the expansion of the fisheries so as to increase food production for the developing countries will require planning and investment at international level.

4.2.3 In view of the general economic characteristics of fisheries, it must be doubtful whether, if development is governed by a requirement to operate at a profit, even the annual production of 150 million t/year, estimated from trends in population, purchasing power and prices, will be reached by the end of the century, unless a combination of growing scarcity of food and increased purchasing power results in an increase in the relative price of fish, or better management of the fisheries results in better profits for the participants. It cannot be assumed that food fisheries in general are an attractive form of investment for the financier or entrepreneur.

Thus, because of the risks and uncertainties, the potential of the fisheries may not be realized as soon as is desirable unless deliberate action is taken at national and international level. Nevertheless fish may be the most quickly and easily exploited source of the needed animal protein and the cheapest in terms of some of the scarce resources required for its production, and the potential is large in terms of world requirements.

4.4 Programme and Priorities

4.4.1 It is therefore suggested that provision might be made, from international public funds as far as may be necessary, for expansion of production from the fisheries to - say - 225 million t/year by the end of the century. Priority should be given to the production of food in and for the developing countries for direct consumption therein, except insofar as practical considerations indicate the utilization of some resources in developed countries, thereby making other foodstuffs more readily available for consumption in the developing countries.

Investment in fisheries on crustacea and tuna and other fishery products for export to developed countries should not be included in the above category, unless a direct connexion with increasing food production in the developing country can be shown.

4.4.2 In order to realize the potential, certain activities in the fields of technical development, exploratory fishing and market development must be initiated, reinforced or expanded, in order to identify the opportunities more clearly and provide information on the basis of which to evaluate the various options.

Only then can practical proposals be drawn up, taking into account the needs of the individual developing country; the location and accessibility of underexploited stocks or the availability of sites for aquaculture; the local will to develop fisheries and expand the market for fish, the availability of potential fishermen, and other national capabilities, existing and potential; the acceptability of fishery products by the potential consumers.

Nothing like a world plan, or even regional or national plans, can be drawn up for increased fish production without carrying out a series of studies and practical investigations, sea area by sea area, district by district, of the factors listed above. A good deal of the necessary information does, of course, exist in FAO. To identify the opportunities more precisely and in greater detail, and to estimate the costs and benefits of exploiting them, is the object of much of the work of FAO's Department of Fisheries in cooperation with UNDP, the Development Banks and other agencies operating in the fields of international and bilateral aid and technical assistance. It requires, however, more inputs by way of the results of exploratory fishing, market surveys and acceptability trials of new or unfamiliar products.

4.4.3 Funds and other resources and assistance are therefore needed in addition to, and in many cases in advance of, the funds required for investment in exploitation. They would be allocated to such activities as the following:

(a) Market trials in the developing countries of products made from fish at present utilized as fishmeal, or not utilized at all, including products made from "unconventional" species where appropriate, all coordinated with (b); also product development and research in support.

(b) Intensified and more widespread exploratory fishing on resources potentially exploitable as food for developing countries, coordinated with (a).

(c) Encouragement of small-scale fish farming: establishment of demonstration farms and supporting services.

(d) Development of large-scale fish farming: site identification, pilot-scale development, supporting services, demonstration.

The above activities should have first call on available funds. Next, funds should be allocated to:

(e) The development of mollusc cultivation as for large-scale fish farming in (d) above, and coordinated with (a).

(f) Immediate practical action to prevent loss and wastage (use of ice, rodent control): demonstration and extension work.

(g) Development of means of utilizing the by-catch from the shrimp trawling industry.

Concurrently, the following work should be undertaken by governments of interested developed countries, if possible in conjunction with any interested members of the Industry Cooperative Programme, and under the general coordination of FAO:

(h) Development of systems of exploiting krill and mesopelagic stocks of fish, and investigations on utilizing the products in developing countries.

(i) Applied research on oceanic squid resources.

(j) Research on further prevention of waste and loss.

4.4.4 FAO's Department of Fisheries is already actively engaged in drawing up programmes of research and development under several of these headings, including arrangements for coordination of research at national level.

This is the latest phase in a continuing effort to make it possible to exploit much more fully in the future the great potential of the fisheries as a source of supply of animal protein foodstuffs for the developing countries and the world as a whole.

G.C. Eddie
Rome, March 1976

REFERENCES

(1) FAO/FI:FMD/73/S-1: Determinants of Demand for Fish and their Effects upon Resources. M.A. Robinson, 1973.

(2) FAO Fisheries Reports: FIIM/R 175: Expanding the Utilization of Marine Fishery Resources for Human Consumption (FAO/NORAD Round Table, Svanoy, 1975).

(3) FAO FIRS/T97: The Fish Resources of the Ocean. J.A. Gulland, 1971, and FAO Yearbook of Fisheries Statistics, Vols. 36 and 37.

(4) Report to the Congress: U.S. Fishing Industry Can be Strengthened by Developing Underutilized Fish Resources. Comptroller-General of the United States; 30 May 1975.

Table 1

PRESENT AND POTENTIAL FISH RESOURCES
(Based on FAO Fisheries Report No. 175)

Annual yields in million metric tons - rounded figures^{a/}

Resource	Used for food	Used for reduction etc.	Landed not used	Not Landed	Not caught
Marine demersal	14	8	1	4 to 5 ^{b/}	15
Small pelagic ^{c/}	11	17	-	-	25 ^{d/}
Others (tuna, etc.)	3	-	-	-	2 ^{d/}
Crustaceans	1.6	-	-	-	0.7
Molluscs	2.3	-	-	-	-
Cephalopods	1	-	-	-	10 to 100
Mesopelagic species	-	-	-	-	100
Euphausiids	-	-	-	-	50 to 150+
Fresh water species	10	-	-	-	5
Aquaculture	5	-	-	-	50 ^{e/}

a/ Data on utilization refer to 1969-71 average

b/ Includes 3-4 million tons from shrimp fisheries

c/ Includes capelin

d/ Smaller tunas, bonito, etc.

e/ Estimated possible production by 1999, excluding molluscs

42.9
25
67.9
50.6
62.9-61.9
2 63 to 62

Table 2

DIRECT AND INDIRECT YIELDS OF PROTEIN FROM FISH
(Source: FAO Fisheries Report No. 175)

The figures are equivalent percentage of protein, based on that contained in the landed fish (live weight). See also Appendix A.

Product	Developing areas		Developed areas	
	White fish	Oily fish	White fish	Oily fish
Fresh (including processing of offcuts and offal)	63	54	72	62
Dried	50	44	72	62
Salted and dried	42	36	59	53
Smoked and dried	54	46	72	62
Canned	-	-	58	58
Frozen (skinned)	-	-	70	60
FPC Type B (small fish)	97	97	-	-
FPC Type B (large fish)	72	72	-	-
FPC Type A	70	91 (ex full meal) 79 (ex presscake)	-	-
FPC Type A (functionalized)	-	-	77	88 (ex full meal) 76 (ex presscake)
Fish meal (via chickens and pigs)	-	-	31	31
Fish meal (via farmed fish)	-	-	45	45

Table 3

FISHERIES SECTOR: ESTIMATED OFFICIAL DEVELOPMENT ASSISTANCE, 1974
(Source: FAO/COFI/75/8)

Source	U.S.\$ million
Direct bilateral assistance ^{a/}	approx. 50.0
Bilateral assistance channelled through multilateral agencies ^{b/}	2.0
UNDP/FAO executed assistance	9.5
Development banks	83.4 ^{c/}
TOTAL	144.9

a/ Including small but unquantifiable aid from non-governmental organizations, e.g., MISERICOR, OXFAM, etc.

b/ Including official and non-governmental assistance

c/ Loans for fisheries approved during the year

Table 4

POSTULATED CONTRIBUTIONS FROM VARIOUS SOURCES
TO INCREASED FISH PRODUCTION

why?

Source	Yield, million t/year		
	Present	Increase	Total
Marine demersal:			
small scale fisheries	4	3	7
other (including cephalopods)	20	14	34
Small pelagic:			
small scale fisheries	4	5	9
other	24	16	40
Tuna, etc.	3	1	4
Crustaceans	1.6	0.4	2
Molluscs	2.3	4 ^{a/}	4
Oceanic squids	-	10	10
Krill and Mesopelagic	-	45	45
Fresh water species:			
small-scale	6	2	8
other	4	5	9
Aquaculture	5	45	50
Post harvest losses, discards, etc.	-	3	3
			225

62.9
226.9

a/ Cultivated

487

Table 5a

COSTS (1976) AND PRODUCTION PERFORMANCE OF VARIOUS VESSEL TYPES

Fishery	Vessel size LOA, m or GRT	Cost U.S.\$ 000	Catch/vessel t/year
Small-scale (fresh water and marine)	9-12 m	17	8
Other fresh water	13-15 m	45	200
Marine demersal	21-30 m	250	600
Small pelagic	21-30 m	250	1 500
Krill and mesopelagic	2 000 T	8 000	20 000
Oceanic squid	? 600 T	2 000	3 000

Table 5b

ASSUMPTIONS REGARDING COSTS OF SHORE INSTALLATIONS

Type of Installation	Capital cost, U.S.\$ per t/year input of fish
Fish meal plant, sophisticated design	(20 to 60) 40
Drying systems, low technology	(4 to 60) 10
Other forms of processing, including sophisticated drying	100
Port installations, including harbour works directly associated with fisheries operations	Assumed to average one- quarter of the cost of the associated fishing fleet, see text: 3.5.4
Processing etc., of farmed fish, say	50

Table 6a

ESTIMATED NUMBERS AND FIRST COSTS OF ADDITIONAL VESSELS REQUIRED
(See Tables 4 and 5a)

Fishery	Postulated contribution million t/year	Number of vessels	Capital cost U.S.\$ million
Small-scale	10	125 000	2 125
Other fresh water	5	25 000	1 125
Marine demersal ^{a/} (including cephalopods)	14	23 000	5 750
Small pelagic ^{a/}	16	11 000	2 750
Krill and mesopelagic	45	2 250	18 000
Oceanic squid	10	3 300	6 600
TOTAL FIRST COST OF VESSELS			36 350

^{a/} Excluding small-scale fisheries

Table 6b

ESTIMATED COSTS OF SHORE INSTALLATIONS

Item	Total cost U.S.\$ million
Harbour installations, see Tables 5b and 6a	9 100
Fish meal plant, 20 million t/year	800
Low-technology drying, say 30 million t/year ^{a/}	300
More sophisticated shore installations for up to 25 million t/year ^{a/b/}	2 500
45 million t/year farmed fish	2 250
	14 950

^{a/} Includes provision for alternative processing plant for 20 million t/year, at present converted to fish meal and oil

^{b/} Excludes supplies processed at sea: krill, mesopelagic fishes and oceanic squids totalling 55 million t/year

Table 6c

ESTIMATED COST OF INVESTMENT IN KEY MANPOWER
(Capture fisheries)

Fishery	Number of key officers ^{a/}	Training costs ^{b/} U.S.\$ million
Small-scale	(5 000 ext. workers)	420
Other fresh water	63 000	190
Marine demersal	58 000	175
Small pelagic	28 000	85
Krill and mesopelagic	13 500	40
Oceanic squid	13 200	40
Key manpower for shore installation ^{c/} and supporting services		950
		200
		1 150

^{a/} Skippers and chief engineers, one each per vessel plus allowance for wastage; three each for krill vessels; two each for oceanic squid vessels

^{b/} At U.S.\$ 3 000 per trainee for seagoing officers

^{c/} At half proportionate rate as for seagoing officers in relation to investment in capital equipment, see Table -b

Table 7

SUMMARY OF ESTIMATED GLOBAL INVESTMENT REQUIREMENTS
(for an increase in production to 225 million t/year)

Item	Cost U.S.\$ million
Fishing vessels, see Table 6a	36 350
Training of key manpower	1 150
Shore installations	14 950
Aquaculture installations at U.S.\$ 89 per t/year output ^{a/} including supporting services	4 450
Major technical development, say ^{b/} Assurance and contingencies ^{c/}	56 900 1 140 -
	58 040 ^{d/e/}

a/ See text: 3.6.4

b/ See text: 3.8.2

c/ See text: 3.9

d/ Does not include provision for replacement of obsolete
or worn-out equipment, see text: 3.10

e/ See, however, 3.7.1

APPENDIX A

DIRECT AND INDIRECT YIELDS OF PROTEIN FROM FISH

The effective availability of protein to the consumer from food products is influenced by a number of factors. The protein content of food products at the time of harvesting is reduced during subsequent phases of processing, storage, distribution and final use of the product.

Detailed and comprehensive investigations of such protein waste are not available for either fishery products or other food. In the following, some estimates for alternative uses of fish are presented for further research and as an indication of the relative protein conversion efficiencies. They are based upon known facts concerning processing yields and on experience in different areas. Data are presented separately for developed and developing areas, mainly because losses during processing and distribution differ significantly and also because the possibility of recycling waste or offal from processing operations frequently does not exist in developing countries.

In the following table the figures are expressed as equivalent percentage of protein, based on that contained in the landed fish (live weight). The protein percentage quoted includes, where appropriate, flesh recovered from offcuts as well as protein becoming available for human consumption by utilizing residual offal material for the production of fishmeal which is then fed to chickens, etc.

Explanatory Notes

- (a) In developing areas little use, if any, is made of offcuts and offal.
- (b) In developed areas white fish industry trimmings are treated for the recovery of shredded flesh for direct human consumption, whereas with oily fish offcuts are diverted to the fishmeal plant.
- (c) Losses occurring in storage and distribution due to decomposition or loss of protein quality are greater in developing areas.
- (d) In the salting of fish leaching losses are discarded; losses due to pinking organisms can be heavy at times.
- (e) Smoke constituents have preservative and antioxidant properties.
- (f) In fishmeal manufacture some losses occur due to breakdown of fish but such losses are minimized in well-operated plants, in which blood-water and stickwater are recovered.
- (g) Return of concentrate to the presscake results in only minimal reduction of protein quality of the resultant fishmeal.
- (h) Protein conversion efficiency is greater for farmed fish than for chickens.

- (i) In the manufacture of FPC type B the only losses are those occurring in the icing of the raw material whereas in type A further losses occur during fat extraction.
- (j) Large fish are headed and gutted before conversion to FPC type B; also all white fish for FPC type A manufacture is assumed to be headed and gutted; offcuts from large fish in the manufacture of FPC are diverted to fish reduction plants.
- (k) Skinning of fish is practised on an increasing scale.