

THE WORLD BANK GROUP ARCHIVES

PUBLIC DISCLOSURE AUTHORIZED

Folder Title: Operations - Research 1972 / 1974 Correspondence - Volume 9

Folder ID: 30045548

Dates: 8/1/1974 - 9/30/1974

Series: Correspondence and Files Created for Research Projects in Support of Operations (Operations Policy Files)

Subfonds: Records of the Office of the Vice President, Development Policy (VPD) and the Development Policy Staff

Fonds: Records of the Office of the Chief Economist

ISAD Reference Code: WB IBRD/IDA DEC-01-02

Digitized: 08/31/2018

To cite materials from this archival folder, please follow the following format:
[Descriptive name of item], [Folder Title], Folder ID [Folder ID], 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-archives> 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

OP - RESEARCH

1972/74

IX



RETURN TO BANK ADMIN. &
POLICY FILES

**DECLASSIFIED
WITH RESTRICTIONS**
WBG Archives

The World Bank Group
Archives
30045548
A1994-056 Other #: 4 Box # 210678B
Operations - Research 1972 / 1974 Correspondence - Volume 9

THIS FILE IS CLOSED AS OF

Sept. 30, 1974

FOR FURTHER CORRESPONDENCE PLEASE SEE

Vol. X

RECORDS MANAGEMENT SECTION

J.S.P. Research
cc IFC Cap. Mm.

OFFICE MEMORANDUM

TO: Mr. Douglas Gustafson, Director, DFCD *gd*

FROM: Gary L. Hyde, Economic Adviser, DFCD *gd*

SUBJECT: Research Concerning Financial Liquidity Mechanisms

DATE: September 30, 1974

1. I have contacted Mr. Gill of IFC/CMD about his proposal to carry out a research project to ascertain "The Role of Central Banks Activities in Strengthening Money Market and Securities Market Liquidity Mechanisms." He advises that the IMF people are willing to collaborate, and in fact to do the job alone if the WBG does not participate.
2. In his September 12 memo addressed to Messrs. Khatkhate (IMF) and Gulhati, with copies to members of the Capital Markets Coordinating Committee, Mr. Gill points out that IFC is already helping a number of governments to create liquidity mechanisms in order to strengthen domestic securities markets. So, a primary research objective is "to ascertain the best way to establish such mechanisms." Another related objective would be to see what alternative arrangements might be available to achieve the same end, perhaps at lower cost.
3. Insofar as money markets are concerned, liquidity mechanisms in most countries involve central bank discount facilities. Such markets can be greatly influenced by the existence and level of central bank reserve requirements, and the types of financial instruments that can be used to satisfy them. Securities markets are probably affected by the same phenomena, albeit indirectly.
4. Mr. Gill suggests that an eventual research paper might contain (a) a summary of central bank policy objectives which affect the design of discount facilities and commercial bank reserve arrangements; (b) a review of existing facilities and arrangements in a representative group of developed and developing countries, with tabulations of the types of paper eligible for discount, discount rates, volume limits, amounts outstanding, reserve requirements by purpose, reserve ratios, and reserve volumes; and (c) conclusions as to the utility of different liquidity mechanisms with respect to macroeconomic policy objectives as well as to the development of domestic financial markets.
5. Two short IFC papers are provided as background, one dealing with "securities market liquidity mechanisms" and the other with "reserve requirements and money markets." The first describes recent experiences in Brazil (FUMCAP), Venezuela (PROMECA), and Korea (KSFC). Mention is also made of certain practices in the U.S., Canada, U.K., and France. The second discusses the various kinds of objectives of commercial bank regulations -- e.g., liquidity and safety requirements designed to protect

bank depositors, investment requirements designed to channel resources to specific economic sectors or groups, reserve requirements designed to strengthen the authorities' influence over aggregate demand, etc.

6. I welcome the prospect of some research in this subject area, as it may well provide an entree to a number of interesting topics. For example, should medium- and long-term lending be financed through recourse to central bank discount facilities or are the latter best reserved for short-term operations? How much term transformation of savings is desirable ("borrowing short to lend long")? What are the differential effects of financial systems patterned after the American, English, and French models on the generation, collection, financialization, and allocation of saving?

7. In retrospect, it seems strange that the IMF Central Banking Service has not tackled this research area long before this. Mr. Gill and his staff should be congratulated for drawing attention to it. We should support the modest undertaking that has been proposed, whether done entirely by the IMF or in part by the WBG, and should the results prove adequate we should encourage additional phases of study.

cc: Mr. D. B. Gill

GLH/cjw

LE-UNIDO/IBRD COOP. RESEARCH
✓ COOP. RESEARCH

September 27, 1974

Letter No. 36

Ms Rosemarie Ostreicher
Research Assistant
IBRD/UNIDO Co-operative Programme
P.O.Box 11011
A-1070 Vienna
AUSTRIA

Dear Ms Ostreicher:

In answer to your letter of September 5, 1974, there is no more recent information of a positive nature concerning Bank Group research in the field of pulp and paper than that contained in the November 12, 1973 Memorandum on "Bank Group Research Program" to which you refer. The Bank's research budget is limited and is allocated to a large number of projects covering a variety of topics in macro and micro economics. It does not cover technical industrial research of the type to which you refer, such as the suitability of Kenaf as a raw material.

Very truly yours,

George Kalmanoff
Deputy Director
Industrial Projects Department

FMoore/GKalmanoff:sml

cc:Mr. Becker-Boost (Vienna)

CP RESEARCH
(RPO #320)

September 26, 1974

Mr. Paul Berthoud
Assistant Executive Director
and Director, Environment Fund
United Nations Environment Programme
Post Office Box 30552
Nairobi


Dear Mr. Berthoud:

Traffic Restraint Study (Singapore)

Further to my letter of August 23, this is to advise that staff absences have held up completion of the formal application for the UNEP grant on the above referenced project. Mr. Holland, the study director, will be returning on September 30, and we expect to forward the completed application a few days thereafter.

Sincerely yours,

Clell G. Harral
Chief, Transport Research Division
Transportation & Urban Projects Department

CGHarral:phm

cc: Mr. Holland
Mr. Dunkerley

ISAP
D.P. Research

Mr. Jean-Pierre Jallade, Economist, Education CPS

September 26, 1974

Andreas Tsantis, Deputy Chief, LCPED (through Mr. K.M. Thint, Chief, LCPED)

BRAZIL - Comments on Research Proposal

We have received your draft and I hope you will find our comments below useful:

Part I We need to strengthen the first two paragraphs in which the objectives of the study and its potential assistance to educational planners are mentioned. I think some specific input is required here. In the first paragraph, for example, we can mention that the research would provide us with an insight into the determinants of the demand for education in the most underprivileged area of Brazil, in which the Brazilian government is now focusing its highest priority in terms of both infrastructure and social sector investments. A better understanding of these determinants would be most useful in determining not only resource allocations to the sector but also more specific policy implications for the government and operational implications for IBRD whose lending program ... etc.

In the second paragraph, it will be useful to expand on what exactly are the insights that educational planners would obtain in this area through the study. This is a crucial point because we can begin the case here for an additional small survey (in addition to data already available) to obtain more specific information related with such factors as absenteeism, repetition and dropping out all of which should be considered in any study on the determinants of schooling. Besides, this information is most useful for an education planner.

Part II Given Mr. Doley's reaction that at this time it may not be hard to obtain money for the research proposal, why not try to include in the total cost, the cost of an additional survey that will provide more information on the points above. But can we afford to leave the proposed research short of providing answers to these crucial factors that are also of high operational significance for us? Perhaps this can be accomplished by having the study undertaken in two phases, one of which would be related with collection and analysis of the new data in this area.

I wonder what is your reaction to this. It certainly won't be time consuming to add this dimension to the proposal, and as long as the additional money is provided, I don't see why ECIEL may not be interested in it either, unless we have to follow in a rigid way the pattern for the joint studies they have set already. Thanks.

ATsantis:jak

WORLD BANK RESEARCH PROGRAM

Project Proposal

Date of Submission: September 26, 1974

SECTION A

PART I. PROJECT IDENTIFICATION

1. Title: The Determinants of Schooling in North-East Brazil.

2. Department Responsible:

CPS/Education Department

3. Staff Member Responsible:

Jean-Pierré Jallade

4. Total Cost (U.S. \$):

US\$75,000

5. Total Staff Time (manmonths)

Professional: 2 Special Services: None

PART II. COORDINATION AND APPROVAL

1. Interdepartmental Coordination:

<u>Department</u>	<u>Name & Signature</u>	<u>Support Project</u>	<u>Do not Support Project-Comments Submitted</u>
a. <u>Latin Amer. & Car. Education Division</u>	<u>Kim Thint</u>		
b. <u>DPS/DRG</u>	<u>John H. Duloy</u>		
c. <u>Development Eco. Dept. Pop & Human Res. Div.</u>	<u>Timothy King</u>		
d.			

2. Approval:

Division Chief

Department Director

NOTE: Please consult instructions issued August 1973 for completion of this Form and preparation of project narrative.

Do not fill

Date received: _____

Review Panel: _____

PART III. IMPLEMENTATION

1. Date Work to Start: January 1975 2. Date First Draft Expected: Dec. 1976

3. Final Report Due: June 1977

4. Implementation Method: Names:

a. Bank Staff Supervision & monitoring only. Jean-Pierre Jallade

b. Individual Consultants _____

c. LDC Contractor/Institute ECIEL

d. Developed Country Contractor/Institute _____

e. Seminar _____

5. Reports Expected in the First Year:
NONE

PART IV. FINANCIAL AND STAFF DATA

Dollar Costs (Estimated Disbursements by Fiscal Year):

	FY 76	FY 77	FY	After FY	Total
a. Contractual	37,500	37,500			75,000
b. Travel					
c. Data Processing					
Total	37,500	37,500			75,000

2. Staff Requirements (manmonths):

	FY 76	FY 77	FY	FY	Total
a. Professional	1	1			2
b. Special Services					
Total	1	1			2

SECTION B: PROJECT DESCRIPTION

I. GENERAL OBJECTIVES AND STRATEGY

The present research proposal is expected to highlight the future expansion of the educational system in the backward areas of Brazil. It is recalled that the lending programme for education in Brazil amounts to about US\$114 million during FY 75-78^{1/}, a significant proportion of which will be spent in the North and North-East of Brazil.

The process of educational growth, including both demand and supply will be analyzed in a detailed way, thus providing useful insights to planners on this area.

The study may - although not necessarily - draw on the Household Survey co-sponsored by IBRD and SUDENE under RPO 299 already approved by the Research Committee.

II. TECHNICAL ASPECTS

The chief question which this research proposal addresses itself to is: what determines the amount of schooling obtained by an individual (with secondary emphasis on the type of schooling)?

The amount and type of schooling can be regarded as determined by two sets of considerations, namely, those originating within the household and outside it. To a large extent, household characteristics coincide with demand considerations, while out-of-household factors coincide with the supply of schooling. Both type of variables will be considered in the study.

^{1/} Total projects costs would amount to US\$250 million.

The amount of schooling received by an individual will be assessed by two different variables, namely, (i) the number of years of schooling and (ii) the amount of money actually spent by the student or by his family to obtain it.

1. Years of Schooling Received

In the first place, the study intends to explain the number of years of schooling for a group of people facing the same conditions of supply: physical availability of schools, quality and price of schooling. The analysis will include the following variables: sex of the individual, income of the household, number of members, number of children of school-age, education and occupation of the parents...etc...

Out-of-household factors will enter the analysis whenever observations are drawn from different places or times or can be adequately grouped with the groups distinguished by different supply and labour market conditions. Such external factors will include employment conditions, costs of education and physical availability of schools.

The study will not consider differences in ability - or "educability" - as a determinant of schooling unless such information is readily available in school records and the individuals tested can be identified so that they and their families can be interviewed. Although this extension of the analysis may be desirable in some cases, it is costly to undertake. Furthermore, it is not essential for the purpose of the present study, which is restricted to basic education only, that is primary plus lower-secondary education.

2. Expenditure on Education

Because educational expenditure and schooling received are strongly associated, many of the variables determining the latter can be expected also to influence the former. Nonetheless, it is important to distinguish the two questions in order to assess the extent to which the costs of education affect the decision to remain in school or to leave.

The study will seek to explain expenditure per child - if possible adjusted for age and school level - mostly with household budget variables. The analysis will yield estimates of the income and price elasticities of spending on education and also of cross-price elasticities. For instance, it may be that, for low-income families, the price of food is an important determinant of educational expenditure.

The approach selected here is an empirical one using the simple and multiple regression model as the main tool of analysis. The study will focus on the eight or nine years of basic education.

Household data will provide the main basis for the present analysis. The study will draw on existing surveys such as those carried out by ECIEL, SUDENE or the Direction de Estadística (IBGE).

III. ORGANIZATIONAL ASPECTS

The study will be commissioned to ECIEL^{1/}, a private international organization based in Rio which comprises about 25 Research Institutes located throughout Latin America. The study will be carried out as part of the ECIEL programme on Education in Latin American Economic Development by a research institute designated to ECIEL. Work is expected to start in January 1975. A first draft of the report will be due in December 1976. The final draft is expected in June 1977.

It is proposed to disburse half of total project costs upon initiation of the study and the remaining upon completion. The Bank staff member responsible for monitoring the project is Jean-Pierre Jallade, CPS, Education Department.

^{1/} This is the acronym for "Estudios Conjuntos sobre Integración Económica Latinoamericana". The new address of ECIEL in Rio is Caixa Postal 740 0 Praia Botafogo 242; Rio-de-Janeiro, GB, Brazil.
Tel. 266-6103
Cable address: PROGRETEL

IV. BUDGET

	FY 75	FY 76	FY 77	Total	Overhead	Total
<hr/>						
	Man-Months					
<u>Research Staff</u> ^{1/}						
Professional	4	12	8	24		
Assistant	2	12	4	18		
	000' US\$					
<u>Research Staff</u> ^{2/}						
Professional	5.4	16.0	10.6	32.0		
Assistant	1.7	10.0	3.3	15.0		
Total	7.1	26.0	13.9	47.0		
Data Processing	2.0	5.0	3.0	10.0		
Travel	1.0	2.0	-	3.0		
Total	10.1	33.0	16.9	60.0	15.0 ^{3/}	75.0

1/ Research staff from the member institute designated by the ECIEL coordination including local consultants if necessary.

2/ Based on an average yearly salary of US\$16,000 for a professional researcher and of US\$10,000 for a research assistant.

3/ These funds - one-fourth of the total costs of the study - are earmarked for overhead expenses such as the ECIEL coordination in Rio, the twice-yearly seminars involving all member institutes and technical assistance from outside consultants.



Record Removal Notice

File Title Operations - Research 1972 / 1974 Correspondence - Volume 9		Barcode No. 30045548		
Document Date 25 September, 1973	Document Type Letter			
Correspondents / Participants To: Keith Shaw, Administrative Director, Overseas Consultancy Service From: Richard H. Sheehan, Senior Advisor, Public Utilities Department				
Subject / Title Resumption of work on the investigation into standards of urban electricity distribution				
Exception(s) Personal Information				
Additional Comments		The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group.		
		<table border="1"><tr><td>Withdrawn by Sherrine M. Thompson</td><td>Date December 28, 2017</td></tr></table>	Withdrawn by Sherrine M. Thompson	Date December 28, 2017
Withdrawn by Sherrine M. Thompson	Date December 28, 2017			

OP-RESEARCH
(RMO # 321)

Messrs Ben King and D. C. Rao

September 25, 1974

Frank Lowenstein *FL*

Clarification of Research Project: Foodgrains
Production in Asia - Plan of Operations

1. This memorandum is intended to clarify my telephone conversation with Mr. King late yesterday evening concerning the above mentioned presentation. The objective and activities of Phase I under the research project on foodgrain production in Asia will be designed to gather existing data and information on grain production. These data and information will be used to design the in-depth studies for two countries under Phase II and subsequently for other countries under Phase III. The in-depth studies will further investigate grain production and resources required for such production in the individual countries.

2. In order to assign priorities to the countries for study purposes it is necessary to know something about the imbalances between supply and demand in the countries. This implies information on demand or requirements as well as on supply. The demand information will be obtained from studies being done by other organizations such as those being done by USDA and Stanford University. The resources of the IBRD Research project will be devoted primarily to investigating production functions and means of increasing grain production in Asia. Aside from evaluating the information on demand collected from other studies, we do not envisage that resources of the IBRD study will be spent in this field.

cc and cleared with
Messrs Bruce and Brown

FLowenstein: sam

D.P. Research
(R.P.O.#312)

Mr. E. Stern, Director, Development Policy

September 25, 1974

Harold R. Shipman, Water Supply Advisor,
Public Utilities Department

Research project in dispensing of water from public hydrants and reduction
of waste water

1. In connection with Research Project No RP# 312, entitled "Reduction in Waste Water", I have had an exchange of correspondence with the International Reference Center (IRC) in the Hague, Netherlands and have had one meeting with the Director of the institution and his assistants to clarify the details surrounding the conduct of the study.
2. I find that IRC is interested in doing the work for us and are prepared to contribute around \$10,000 of IRC money toward the costs. The initial IRC estimate for carrying out all work incorporated in the Terms of Reference was \$50,000. In commenting on their estimate, both in a subsequent letter and during conversations in Europe during August with Mr. Santama and Mr. van Damme of IRC, the possibility of reducing the figure considerably below the \$50,000 level was explored, and agreement reached that the scope of work incorporated in the Terms of Reference could be covered at a total cost of between \$35,000 and \$40,000. A shortfall therefore of between \$5,000 and \$10,000 exists from the contributions of \$20,000 from IBRD and \$10,000 from IRC.
3. The International Reference Center is unable to provide funds additional to the \$10,000 and consequently if the study is to proceed as originally proposed, an additional amount from IBRD would be required. My discussions with IRC indicate that they are willing to proceed with the contract and would do all work outlined at a figure of \$27,500, making a total of \$37,500 with their own \$10,000. The alternative to this would be to reduce the Terms of Reference to stay within the initial figure of \$30,000. If this latter were to be done, one way would be to delete the pictures, diagrams and drafting which had been considered as a necessary part of the final report. This would substantially reduce the usefulness of the report for member countries who might wish to consider some of the devices for local fabrication and installation. Another way would be to reduce the field work which would limit the number of devices and methods covered by the study.
4. In order to avoid the need to revise the Terms of Reference as suggested above, I would like to enquire whether you see any possibility to the provision of a supplement of \$7,500 to the initial \$20,000 already approved for this project. It is believed desirable to request this authorization now rather than at a later stage when the study is fully underway, since it would be preferable to enter into a firm agreement with IRC on the full Terms of Reference, using an agreed figure which would not have to be revised later.
5. An early reply to the foregoing request would be appreciated since IRC is prepared to begin work by mid-October if agreement can be reached. Please let me know if we can provide additional information.

HRShipman:cfa

cc: Mr. P. Peter

LI-FAO
✓ COOP Research

Mr. Enzo R. Grilli

September 24, 1974

Wouter Tims, Director, EPD *WT*

Terms of Reference: Attendance at the 9th Session of the
FAO Intergovernmental Group on Jute, Kenaf and Allied Fibers,
Rome, October 7-10, 1974. Review of the results of Mrs. 't Hooft's
(consultant to IBRD) interviews with SR Manufacturers in Western
Europe and planning of next stage of Rubber Research Project,
Amsterdam, October 11, 1974.

1. You will attend the 9th Session of the FAO Intergovernmental Group on Jute, Kenaf and Allied Fibers in Rome, October 7-10, 1974, as an observer from the Bank. You will pay special attention to subjects of interest to the Bank, particularly the current market situation of jute fiber in the aftermath of the floods in Bangladesh.
2. On your way back from Rome, you should stop over in Amsterdam to assess the progress of the market research on synthetic rubber conducted for the Bank by Mrs. 't Hooft and to plan the next stage of the Rubber Research Project. You will return to Headquarters on or about Monday, October 14, 1974.
3. On your return, you will prepare brief back-to-office reports on the highlights of the jute meeting and on the status of the rubber research project.

cc and cleared with Mr. K. Takeuchi *KJ*

EGrilli:cw

OP-RESEARCH
(10017321)

F. Lowenstein and Dorris D. Brown

September 24, 1974

H. Vergin and R. Picciotto

Terms of Reference - Mission to IRRI, Los Banos, Philippines
concerning Asian Grain Production
Research Project

1. You will arrive in IRRI, Los Banos, Philippines on October 27 and leave the Philippines on October 29.
2. You will explain the objectives, scope and purpose of the Grain Research Project and approach IRRI for possible cooperation and participation in the project. You will determine if IRRI is willing to convene a conference in early January, 1975 for the purpose of discussing this study with representatives from Asian LDCs and selected international institutions. You will ascertain the extent to which IRRI would fund the conference, determine a suitable date and exchange views on who should be invited from the Asian LDCs and other institutions. You will draft a tentative agenda designed to provide information needed for the G Grain Research Study and to coordinate its activities with similar activities of other agencies in Asia.
3. On your return you will prepare a back to office report.

Cleared and cc:

Messrs. W. Smith and W. H. Spall

cc: Messrs. Wudelman, Bruce, B. King and D.C.Rao

F.L. Flowenstein/DBrown:dbs

Mr. Hollis B. Chenery,
Vice President, VPD

September 24, 1974

B. B. King, *BBK*
Research Adviser, VPD
Board Meetings on Research

1. Currently two meetings are scheduled:
 - (i) February 4 (Tuesday): Bank Research Program: Annual Report
 - (ii) March 6 (Thursday): Seminar on Selected Research Projects

2. Tentative plans have been made for a presentation on two projects at the seminar:
 - (i) The Agricultural Sector in Mexico (RPO 216): Roger Norton.
 - (ii) Analysis of Problems and Issues in Village Electrification (RPO 238): Dennis Anderson.

While agreement has been reached informally with those concerned, I think the time has come to make a reasonably firm decision on this proposal. The only objection that I can see is a rather superficial one: both projects happen to have been based on research in Latin America, in fact, in Central America. Given other constraints on choice, something like this was bound to happen. It should be possible to take care of it in our introduction, especially as the results are of more than a country-specific interest.

3. One reason for an early decision is that we would hope to invite Leopoldo Solis for the first project. Consideration would also be given to an invitation to El Salvador for the second. It would help to have a reasonably firm plan and date.

4. D. C. Rao will be working on the initial draft of the annual report, when he returns from Santiago. At the Board Meeting, I think it would be a good idea to have a separate presentation of the DRC program by Jack Duloy. He agrees.

cc: Messrs. Stern, Duloy, Norton, Rovani, Leiserson,
D. Anderson, D. C. Rao

BBKing:gm

OP-RESEARCH
(RPO#320)

Those Listed Below

September 23, 1974

Clell G. Herral, Chief, Transport Research Division,
Transportation and Urban Projects Department
Traffic Restraint Study (Singapore).

Our study of traffic restraint in Singapore is designed around the Singapore Government's announced plans for instituting a scheme combining fringe car parks, shuttle bus service, supplementary licenses for entry into the central area during the period 7:30 to 9:30 a.m., and high central-area parking charges. The scheme is described in "A Plan for the Relief of Congestion in the City", an official publication issued last May, of which I am enclosing a copy of the English portion. The latest information on the implementation of the scheme is that the fringe parking areas and shuttle buses are expected to be in operation about May 1, 1975, and that the restraints will be imposed two months later.

Meanwhile, we are planning and contracting for extensive data collection activities to be carried out during the next six months, and for follow-up surveys and observations a few months after the restraints are instituted. The overall research plans are described in the enclosed Research Proposal.

The Singapore Government has agreed to our study and the IBRD Research Committee has approved it and voted a first-year allocation of \$110,000; we expect some additional financial assistance for the study from the U.N. Environmental Program. I am glad to say that Peter Watson has joined the Bank for a year and will work with Edward Holland on the study. We have also retained Bruno Wildermuth of Wilbur Smith and Associates, who will direct the effort in Singapore.

Our objectives in this study have been broadened compared to our earlier thinking. We will try to measure the socio-economic effects of the whole community including business activities and the environment, as well as on the travel behavior of automobile and public transport users. We also hope to do some significant work on travel demand models. Peter has put to paper our current thinking in the memoranda which are enclosed for your information and comment. The memo of August 23 elaborates on our research objectives more explicitly than before, as well as indicating some of the approaches we have in mind for pursuing each of the two main objectives -- impact evaluation and model development. The August 21 memo explains the design of the sample for the household survey, which is to contribute to both objectives.

We appreciate your interest in this study and look forward to receiving your comments.

Attachments

Mr. David Bayliss, Mr. Michael Beesley, Mr. Kiran Bhatt, Mr. Neils de Terra, Mr. Robert Dial, Mr. David Gendel, Mr. Stein Hansen, Mr. Jim Hirdinger, Mr. Anthony Hitchcock, Mr. Damien Kulash, Mr. Peter Stopher, Mr. Mayo Stutz, Mr. Alan Walters, Mr. Ed Weiner, Mr. Alan Wilson, Dr. Y. Zahavi.

cc: Messrs. Holland, Watson, Yucel, Roth

PLWatson/EPHolland:gbm

O.P. Revised
September 23, 1974

M. Landing Savane
Directeur-Adjoint de la Statistiques
Chef de la Division Demographique
Dakar, Senegal

Dear M. Savane:

I enjoyed our lunch together in Bucharest. As I believe I mentioned, Nancy Birdsall of the Inter-Disciplinary Communications Program of the Smithsonian Institution, who is working with us on the West African migration project proposal, will be travelling in Africa on Smithsonian business during early October. I have suggested to her that, if convenient for you and if her time permits, she should stop in Dakar to meet with you to discuss the proposed study. She would be arriving October 17 or 18, but will cable from Lagos to confirm an appointment earlier that week.

With best personal regards,

Sincerely yours,

TK

Timothy King
Chief, Population and Human Resources Division
Development Economics Department

TK:jlh

D.P. Research

September 23, 1974

Mr. Jean Guegnant
International Development Research Center
P. O. Box 11007
CD Annex
Dakar, Senegal

Dear Mr. Guegnant:

Some time ago, we received a CODESRIA proposal for the study of migration in West Africa. Through a cooperative arrangement with the Inter-Disciplinary Communications Program of the Smithsonian Institution, I have been able to obtain the assistance of Nancy Birdsall of their staff, in organizing a response to this proposal.

George Brown suggested that you would be a very useful source of advice. Miss Birdsall will be travelling in Africa on Smithsonian business during early October. I have asked her, if convenient for you and her time permits, to stop in Dakar to meet with you for discussion of the proposed study. She would be arriving October 17 or 18, but will cable from Lagos to confirm an appointment earlier that week.

I hope you will be able to get together.

Sincerely yours,



Timothy King

Chief, Population and Human Resources Division
Development Economics Department

TK:jlh

OP-RESEARCH
(R107370)

September 23, 1974

Mr. Peter Smethurst,
Department of the
Environment,
2 Marsham Street
London, SW 1 P 3EB
England

Dear Mr. Smethurst:

I am working on a World Bank Traffic Restraint research project, in which we plan to use a traffic restraint experiment in Singapore as a basis for developing improved urban transport models. I am interested in identifying the English theoretical and operational state of the art in transport models. I am specifically interested in a) recent and near-future improvements in conventional transport models, and b) developments in strategic policy planning models (such as CRISTAL).

I understand from Tony Hitchcock of the TRRL that you have been working on similar problems, and would be grateful if you could send me any relevant material. I would also like to discuss these issues with you on my next visit to London.


I look forward to hearing from you.

Please give my regards to Geoffrey Searle.

Yours sincerely,



Peter L. Watson
Transport Research Division
Transportation and Urban Projects Department

PLWatson:mcp 

cc. Mr. Harral, Transp.&Urb. Proj. Depart.
Mr. Holland, Transp.&Urb. Proj. Depart.

OP-RESEARCH
(RPO 11320)

September 23, 1974

Mr. Barry Conliffe,
SELNEC Transportation Study,
Greater Manchester Metropolitan
County Council
Manchester
England

Dear Mr. Conliffe:

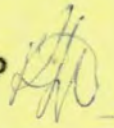
I am working on a World Bank Traffic Restraint research project, in which we plan to use a traffic restraint experiment in Singapore as a basis for developing improved urban transport models. I am interested in identifying the English theoretical and operational state of the art in transport models. I am specifically interested in a) recent and near-future improvements in conventional transport models, and b) developments in strategic policy planning models (such as CRISTAL).

Alan Wilson has suggested that I write to you for current information on the SELNEC Study. He also suggested that I request a copy of Working Paper Number 5 for a description of the model. I would also be grateful if you could send me a copy of the Study's final report and any working papers which set out recent or anticipated improvements in the model.

I look forward to hearing from you.

Yours sincerely,

Peter L. Watson
Transport Research Division
Transportation and Urban Projects Department

PLWatson:mcp 

cc. Mr. Harral, Transp.&Urb. Proj. Depart.
Mr. Holland, Transp.&Urb. Proj. Depart.

OP-RESEARCH
(RPO#320)

September 23, 1974

Mr. Mark R. Wigan,
Greater London Council,
Department of Planning
and Transportation,
County Hall,
London, SE1 7PB
England

Dear Mark:

I have recently joined the World Bank for a year's leave of absence from Northwestern to work on traffic restraint and transport modal development based on an experiment to be carried out next year in Singapore. At the moment, I am trying to identify the theoretical and operational state of the art of urban transport modelling. I am specifically interested in a) recent and near-future improvements in conventional transport models, and b) developments in strategic policy planning models, such as CRISTAL and TRRL TAP.

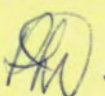
Based on your experience, especially at TRRL, could you take a little time to give me your views on where things are in England, and where they are likely to go in the near future? Please do not hesitate to throw references at me - it is better to duplicate advice than to miss it.

I look forward to receiving your thoughts on this topic and I hope that we will be able to discuss them on my next visit to England.

Yours sincerely,

Peter L. Watson
Transport Research Division
Transportation and Urban Projects Department

P.S. Do I understand correctly that some interesting work was done on Coventry?

PLWatson:mcp 

cc. Messrs. Harral, Holland, Transp.&Urb.Proj.Depart.

O.P. RESEARCH
(CRPO # 320)

September 23, 1974

Mr. Roy Spence,
British Traffic and
Transport Surveys,
Department of the
Environment
2, Marsham Street
London, SW1 P 3EB
England

Dear Mr. Spence:

I am working on a World Bank Traffic Restraint research project, in which we plan to use a traffic restraint experiment in Singapore as a basis for developing improved urban transport models. I am interested in identifying the English theoretical and operational state of the art in transport models. I am specifically interested in a) recent and near-future improvements in conventional transport models, and b) developments in strategic policy planning models (such as CRISTAL).

I understand from Tony Hitchcock of the TRL that you are closely in touch with current practice in the UK. I would be grateful if you could spare a little time to indicate what is currently done in England, and to send me any relevant material that you might have available.

I look forward to hearing from you.

Yours sincerely,

Peter L. Watson
Transport Research Division
Transportation and Urban Projects Department

PLWatson:mcp

cc. Mr. Herral, Transp.&Urb. Proj. Depart.
Mr. Holland, Transp.&Urb. Proj. Depart.

OP-RESEARCH
+
OP-RESEARCH (RAO # 316)

September 20, 1974

Mrs. Ruth Zagorin, Director
Social Sciences & Human Resources
International Development Research Centre
P.O. Box 8500
Ottawa, Canada

Dear Ruth:

As he may have mentioned, Nantel dropped in the other day. I was very glad to see him. In a proper Bellagio-plus spirit, we discussed possible collaboration and one possible line occurred to me. As you can see from the enclosed, I took it a little further here. I would say that the reaction was at least as good as lukewarm initially. I would be interested in the temperature of your reaction.

While on the subject of Bellagio-plus, has the proposal for a regular index system of approved projects died or is it just dormant? I dug out of the file my old notes on the subject, and enclose them for what they are still worth.

I also saw Hubert LeBlanc in Abidjan. Among other things, we talked briefly about CODESRIA, since we have a relatively trivial problem in that context. I gather you have less trivial ones. Some time, when it is convenient, I would like to hear about them.

We did get the contribution from UNEP for our project on traffic restraint in Singapore, which was why you never heard any more about it. Thank you anyway for offering a sympathetic hearing in case.

I shall be away from September 25 to about October 13 or so. Will you be in Washington any time thereafter?

Thank you again for the friendly hospitality of IDRC.

Yours ever,



B. B. King

Enclosures

BBKing:gm

Mr. H. Dunkerley, TRU

September 19, 1974

B. B. King, VPD

Urbanization Standards for Site and
Services Projects (RPO 316)

Mr. Stern's memorandum to Mr. Jaycox of June 27 listed three requirements. The first of these was that the terms of reference for the design group be modified and cleared with us. Have there been new terms of reference?

The third requirement was that there be consideration of ways in which developing country institutions could be involved. Mr. Nantel Brisset, who represents the Social Science Division of IDRC in their regional office in Bogota, called on me this morning and, among other things, raised the question of the possibility of some form of collaboration. You are probably aware that the IDRC has a low-cost housing project in Latin America - and also one in Asia. Each of them consists of a "network" of institutions concerned with low-cost housing in a number of different countries. The Latin American one has a common denominator with the Bank, in that the institution in El Salvador, for which a site and services credit is proposed, is actively represented in the "network".

Brisset and I agreed to explore, in a tentative way, whether an invitation to people in the Bank to a future meeting of the Latin American "network" would be acceptable on their part, and welcomed on ours. It is also worth considering whether both "networks" might be informed of our project (316) and enlisted, if they are suitable bodies, in support of it. Laquian is in overall charge of both IDRC projects and you may wish to consult him. However, I gather informally that he may be taking a sabbatical soon.

cc: Messrs. Jaycox
Churchill
Harral
D.C. Rao

BBKing:gm

NOTES ON EXCHANGE OF RESEARCH PROJECT INFORMATION

Stages

1. Three stages may be distinguished:
 - (a) Passed. This indicates that project has passed through some internal "filter" and continues to be studied. This stage may (i) not exist in some institutions, (ii) not be formalized, even if it exists, (iii) imply a different probability of acceptance in different institutions.
 - (b) Approved. This indicates that the project has been approved by the ultimate approving authority in the institution (which may vary according to size of project, etc.). A possible variant would be "Agreed", which would imply that agreement with the recipient had been concluded.
 - (c) Completed. This implies that the project has been completed and the product (if any) is available in some transferable form. A variant would be completion except for publication, where the interval is substantial.

Options

2. The following may be considered as possible options in ascending order of complexity:

- a) Approved only
- b) Approved with the notation "completed" added at the next stage with reference to product (if any).
- c) As in (b) with inclusion of passed.

Approved only

- 3. The exchange would have two main features:
 - (i) Each participant would circulate principal data on project together with a one-page summary. Information would be similar to IDRC "Project Summary" These would be filed in each recipient institution under the issuing institution in the sequence most suitable for access (project number?; date?).
 - (ii) One institution (IDRC) would compile an index periodically (6 months, 1 year?) to be distributed to other participants. The index would be compiled in two ways:
 - a) by subject
 - b) by country
- 4. There is a question what information the index should contain apart from the minimum of grantor(s), title, amount, recipient, and country.
- 5. How far back should system go? The IBRD or IDRC programs have not been in existence for long. Possibly early enough to include both in toto.

Approved and completed

6. In its simplest form, this option would only include an annotation to the previous description, indicating (i) that the project was completed (ii) minimum description of the product (title, author, ref. number, etc.) or statement "no product" (e.g. core support).
7. A more complicated supplement would include the preparation of abstracts so that documents produced could be incorporated in an information system.

Passed, approved and completed

8. It is possible to conceive of two ways in which passed projects would be included. The simple way would be to distribute a brief "early-warning" notification of a project under consideration, similar to the IDRC PROJECT NOTIFICATION MEMORANDUM. Recipients would simply pass this on to those most directly interested in the subject matter in their respective institutions. No systematic filing would be attempted.
9. A more complex step would be to try to incorporate the "Passed" stage into the rest of the system. There are a number of problems:
 - (i) The interval between Passed and Approved (or rejected) stages may be too short to justify inclusion in an index, unless the frequency of the latter were considerably increased.

- (ii) It may be necessary in some institutions to create the necessary document from scratch, whereas something adequate for a more primitive early-warning system exists.
- (iii) There would have to be a mechanism for removing passed projects from the system, once approved or rejected. (The data applicable to an approved project might well be different in many respects, possibly all, from the original passed project).

10. It is doubtful whether the more complex version could be justified initially. Even the simple version has possible drawbacks. However, the latter might be worth considering on a trial basis with distribution from one institution (IDRC), which already has a well-established "Passed" stage.

Urbanization Standards for Site and Service Projects

Research Proposal

I. Introduction

1. The Bank's involvement in the housing sector is relatively recent and has mostly been in the form of site and services and squatter upgrading projects. These types of housing projects have emerged as the only economically feasible solutions to the problems of low-income housing in developing countries. Unfortunately, reference sources and experience on such projects are relatively few and inadequate, and the wealth of information which is available on conventional housing is not applicable to site and services or upgrading projects because they are different by nature, and cost constraints are of a different order of magnitude.
2. Within the context of low-cost housing, it is generally possible to specify a wide range of standards with differing cost of service. However, no systematic approach to the choice between alternative design standards is yet available; the Bank has thus had to rely very heavily on the personal expertise of consultants to develop standards, ad hoc, on a project by project basis. One of the aims of this study is to make it possible for Bank project personnel, with a modest manpower expenditure, to develop a wide range of alternative project designs for each site and service or squatter settlement project.
3. Information on the cost functions for different standards of services is similarly lacking or widely scattered. In order to facilitate the use of the capability discussed in paragraph 2 in economic analysis of projects, this study will also develop and consolidate this information on cost functions.

4. Ideally, these two main outputs of the study will, therefore, greatly improve economic evaluation of projects by making it possible to consider, quickly and cheaply, a variety of alternatives in design for any one sites and services or upgrading project. This research will augment and extend preliminary work on the analysis of cost components on on-site infrastructure of site and services already being carried out in the Transportation and Urban Projects Department under RES 850. Further work in this field is foreshadowed in the paper: "Re: Site and Services Projects" (Sec M74-239) circulated to the Board on April 12, 1974.

II. Scope of Work

5. The research project will produce the following outputs:
- a) A compendium providing minimum and alternative standards for the main components of site and service and squatter upgrading projects;
 - b) A handbook of engineering and cost data, for the range of alternative design standards identified in(a);
 - c) A series of prototype project designs illustrating and evaluating the benefits and costs of the main choices in design;
 - d) An annotated bibliography of studies, conventions, research notes, etc., designed to complete the library on low-income housing available to the Bank.

III. Research Strategy

6. The proposed work will be primarily based on experience gained to date in the Bank and outside the Bank on low-cost housing projects. In the Bank, information available from the various sites and services projects in which the

Bank is currently involved, relating physical standards to costs, is being analyzed under RES 850. Outside the Bank, the Urban Settlement Design Group of MIT has been involved in extensive work in the design of low-income housing and sites and services schemes in developing countries, particularly in Latin America, East Africa and recently in the Middle East. This group offers a unique expertise and experience which they have accumulated over the past seven years. Between the Bank and the MIT Group, there is sufficient relevant data and information for the research now proposed.

Messrs. Yudelman, Duloy, Darnell and Donaldson

September 20, 1974

Colin Bruce CB

Draft Submission to the Research Committee for Additional Funds (\$30,000) to Start Part II of the FAO/IBRD Cooperative Research into Small Farms

In the absence of Al Egbert on annual leave, I have drafted an outline of a Research Framework for the above study, which will be used as a basis of a submission to the Research Committee.

You will see that I am recommending keeping Tanzania as one of the three countries to be studied in greater depth in Part II of the Study for reasons given on page 4. I need clearance on this in order to cable FAO.

I have an in-built dislike of specifying hypotheses for testing in advance of seeing the nature of the empirical research data, but any suggestions for sharpening up the analytic framework would be much appreciated.

Attachment:
cc: Mr. Egbert, o/r

CBruce:ssp

DRAFT

CBruce:ssp

September 18, 1974

FAO/IBRD Cooperative Research Project

"Raising the Productivity of Small Farms"

Outline of a Research Framework

1. Arising out of the Nairobi Speech, the World Bank is keenly interested in obtaining a better understanding of the requirements for raising the productivity of small farms. The number of determinants of productivity are large ^{1/} and vary from country to country and from one agro-ecological zone to another within countries.
2. A three-pronged approach has been adopted. First, attempts are being made within the CPS-DPS complex to devise a number of econometric models ^{2/} which will hopefully provide some answers, but the data base is very poor and it is not possible to build into these model constraints arising from such things as political, organizational and procedural factors which might be subsumed under the heading "absorptive capacity constraints." Such lack of realism in all these models limits their operational usefulness, although something interesting may be learnt about some interrelationships within the agricultural sector.
3. Second, a study is under way to find out what the main constraints are in increasing output of food grains in Asia (with particular emphasis on rice and wheat and with special reference to small farmers), and what needs to be done to increase productivity. Phase I of this joint Agriculture and Rural Development, CPS/South Asia/East Asia and Pacific project

^{1/} See attached list of parameters.

^{2/} Mr. Raj Krishna is working on a general programming model and Mr. A. Egbert is devising an input-output model of the Ghana Agricultural Sector to identify the main data gaps and to assess the practical usefulness of such models.

is under way, being funded by the Research Committee.

4. The third prong of the approach, and one which is really basic to the other two, is an empirical research project designed to obtain a comprehensive profile of the rural poor which we do not have at the moment. Thus, it is more fact-finding and descriptive than analytical, at least in its first phase, but it should not be under valued for this reason. Part I now under way is being carried out by a number of FAO departments, coordinated by an Inter-Departmental Working Group under the Chairmanship of Mr. Kenneth Bachman, Director of the Statistical Division. The total cost to the Bank of Part I is \$90,000 which is being met as to \$60,000 by P&B from other sources and \$30,000 from IBRD/FAO Cooperative Program Budget.

5. Part I, which essentially involves speeding up the processing and analysis of the 1970 World Census of Agriculture returns, will provide the following descriptive material for about 17 countries--the number for which adequate returns appear to be available:

- (i) main characteristics of small farms covering (a) the number, size, tenure, resources used (land, people, livestock, agricultural machinery, etc.); (b) output of crop and livestock products (per capita, per hectare and per holding) in terms of calorie equivalents or possibly value of gross output, with indications of variability due to irrigation, where possible; (c) employment; (d) location by climatic zones, agricultural regions, etc.; (e) use of technology, kinds of prevailing agricultural practices, etc.; (f) possible effects of weather variability on annual agricultural production; and (g) socio-economic characteristics of people on small farms;

- (ii) the relative importance of crops on small farms in relation to total agriculture, with subdivision of the small farms into the following area size classes: under 1 ha, 1-2 ha, 2-5 ha, 5-10 ha, 10-20 ha and 20 ha. and above;
- (iii) trends in the numbers of small farms wherever the required information prior to the 1970 census is available (e.g. from the 1960 census).

6. It should be noted that the FAO World Census of Agriculture does not yield farmgate price and cost data so as to be able to calculate gross and net value of output, which is one of the parameters we are most interested in because we would like to obtain distributions of small farms by size of net income; area size is an unsatisfactory measure for many reasons. Taking into account the availability of other data, FAO estimate that they could obtain very rough gross output figures for small farms, but in most cases the price data are averages for agriculture generally and do not refer to small farms. As a cross check, we agreed with FAO to carry out an analysis of calorie equivalents, adjusted for protein values. This does not get round the price problem entirely because the calorie equivalents of non-food items have to be converted into calorie equivalents via market values. There are also other difficulties, but this method has some interest for us in connection with the estimation of the "critical level of consumption" in social cost-benefit analysis. As far as the Small Farms study is concerned it can never be more than an imperfect proxy for net income or at least gross value of output.

7. In Part II of the Study, it is proposed to take 3 of the 17 countries studied in Part I, where the data base is somewhat better than average, and

carry out an analysis in greater depth, combining the Census data with agro-ecological and farm management information obtained by other means. The countries originally proposed were Tanzania, Mexico and the Philippines-- all Bank countries of concentration, but FAO have since informed us that the Philippines would present difficulties with respect to data availability and suggest replacing it by Pakistan. In Tanzania, there is a relatively good data base as regards agrometeorology, and soils and a nationwide household budget survey of mainland Tanzania was undertaken in 1969. Earlier in 1967 and 1968, two small food consumption surveys were made. Farm management data is limited. Thus, although some information is available, Tanzania is not an ideal country because additional farm management data would have to be obtained in a sample survey. An alternative possibility is one or two states in India, but, if Pakistan is selected in place of the Philippines, it would be preferable to have an African country. Although it might be somewhat more costly because of the additional sample survey work required, it is recommended that Tanzania be retained, both because it is one of our countries of concentration and because we need to have some knowledge of African conditions. Moreover, Tanzania is a country whose government is deeply committed to rural development.

8. The in-depth study proposed in Part II would make a determined effort to convert physical inputs and outputs into value figures and thus obtain gross output and net income and hence a farm size distribution by either or both these categories. The value categories will then be broken down by main crops, agro-ecological zones, the nature and extent of inputs and by socio-economic characteristics.

9. The detailed FAO proposals for Part II of the Small Farms Study, leaving out the proposed classification of farmers and their families by

categories according to consumption levels, are as follows:^{1/}

10. "Objectives of Part II Study for Tanzania

- Agroecological Aspects:

10.1 The available climatological data will be analyzed and a map and tables prepared showing various climatic zones expressed in terms of lengths of the growing season based on water availability and including the constraints due to temperature during the growing season.

10.2 The map so prepared will be matched against the map for soils relief, vegetation, geology, geomorphology, hydrology, with the view of preparing a map of the agroecological zones. On the basis of present soils and climatic maps, it is estimated that there would be six agroecological zones.

10.3 From existing land use and cropping patterns in the country an index of the agricultural potential based on the physical environment will be established and expressed in terms of crop production capacity per ha. per year. This index will be calculated for each agroecological zone and main crop.

- Farm Management Aspects:

10.4 A sample of farms will be selected within each of the agroecological zones identified under B above, and complete farm resource use and input/output data collected. The sample would be a subsample of the farms covered by the agricultural sample census, and hence it would be stratified according to the size of holding classification used in Part I of this Project. Con-

^{1/} They are specified in terms of one country only--Tanzania. With suitable modifications in the light of the Tanzanian experience it can and will be generalized for the other countries in Part II of the Study. It is for the Tanzanian part that \$30,000 is being requested for FY75. The rest of the Part II study would not commence until the beginning of FY76.

"sideration will be given to possible further stratification of the farms according to the major type of farming groups within each zone, i.e. livestock farms; mixed farming - crops and livestock; and various crop combinations.

- 10.5 Data on crops and livestock will be collected from various research stations, field trials and from progressive farmers within each agroecological zone which will later be used as coefficients for estimating the type and amount of inputs required and the potential increase in productivity by size and type of farm from the use of improved practices and additional inputs.
- 10.6 The data and information to be collected will first be analyzed to identify the constraints to improved production within each sample group including - to the extent possible - those related to the goals of the various farmer groups, such as greater desire for maximum leisure than for increased production, number of cattle rather than improved output of saleable products, etc.
- 10.7 Various comparisons and analyses will be completed, such as: quantifying labour requirements by enterprise (i.e. technical unit, e.g. livestock or crop) according to power source and equipment used (hand labour, animal or power drawn); probable effect on production, labour utilization and income if various improved practices and additional inputs including varying levels of mechanization were used; comparison of possible land labour, savings, capital efficiency at the farm level, and creation of exportable commodity surplus at the regional, social or national level between various individual farm groups with that of large scale Ujamaa Village type farming ventures (assuming equal level of management ability and farmer initiative for both levels).

11. "- Planned Program of Work:

- 11.1 Objectives 10.1, 10.2 and 10.3 are expected to be completed by 31 December 1974.
- 11.2 Achievement of objectives 10.4 through 10.7 will need to be closely coordinated with, and partially achieved in cooperation with, present on-going UNDP/FAO and other activities in Tanzania. The UNDP Regional Planning Team has already stated that "a farm management approach will be required as the essential basis for the design of sound micro-economic solutions in this area", and has correspondingly given strong emphasis to this speciality in the team's proposed composition. The Farm Management Specialist to be appointed in the UNDP/FAO Tanzania Rural Development Bank Project, and his counterparts will also assist in this project. The University of Dar-es-Salaam has also agreed to work closely with the Tanzania Rural Development Bank and FAO to complete the required farm management studies.
- 11.3 Standard forms to be used for collection of field data will be finalized by mid-September 1974. A farm management data storage and retrieval system will also be finalized by the same date, which will be later used to store and process the data into various types of tables for analytical purposes. Standard forms will be distributed in September 1974 for the collection of field data by the farm management specialists and their staff.
- 11.4 The steps envisaged to be used for data collected and provisional methods for analysis are explained in "Outline of Actions" below.

12. "- FAO Inputs for Initial Work of Part II

- 12.1 Part I of the project will provide data for Tanzania by appropriate administrative and agro-economic zones used in the sample agricultural census. These data will be grouped to correspond to the agroecological zones for Tanzania to be described under objective 10.2 above.
- 12.2 By reorganizing the Regular Programme work priorities in the participating technical units of FAO, it should be possible to devote the equivalent of 12 man-months of professional staff time; an equivalent amount of secretarial staff time; office supplies and related services. Professional inputs from as many specialist officers and programme supervisors as required will also be provided.
- 12.3 The above described input by FAO is not sufficient to undertake all the initial work required for Part II of the project in Tanzania.

"The World Bank, therefore, agreed to allocate \$30,000 additional supplementary assistance for this purpose. The planned utilization of the additional input is outlined under 13. below.

13. Specification of Utilization of the Funds already Allocated by the World Bank

	\$
13.1 Consultant for the preparation of agroecological zones map for 6 weeks;	3,750
13.2 Consultant for the interpretation of soil map and integration of the data with the ecological map - for 2 months	5,000
13.3 Consultant/Agronomist to assess the agricultural potentialities of the various agroecological zones delineated according to the physical resources within the country - for 1 month	2,500
13.4 Drafting of maps - 1 month	1,000
13.5 ERTS - 1 imagery	200
13.6 Farm Management Consultant to assist with sampling, training of staff for data collection and processing/analysis of data - for 4 months (a sizeable proportion of this amount may have to be used in Tanzania to pay travel, per diem and honorarium to local staff for data collection)	10,000
13.7 Additional staff for putting data on punch cards for computer	1,500
13.8 Additional computer costs for data analysis (farm management and household budget surveys)	5,000
13.9 Contingencies	1,050
Total	<u>30,000</u>

14. Further Work on Part II

14.1 It is expected to complete the work on Tanzania for Part II by the end of July 1975. A proposed outline for the main sections of the final report is as follows:

- "(i) Definition of agroecological zones and regional production potentials based on physical conditions;
- (ii) socio-economic conditions of each zone (including output, employment, nutrition, farm size, land tenure, etc.);
- (iii) survey of farm management practices and farm employment situation, estimates of net farm output and nutrition in each zone including small and improved farms;
- (iv) small farm potential for development and production (diversification, yield increase, etc.);
- (v) provisional definition of target group;
- (vi) institutional and policy socio-economic constraints affecting the development of small farms."

14.2 " In addition to the study of Tanzania, the World Bank expressed priority interest for similar work to be undertaken in Mexico and the Philippines. In discussing the other possible countries to be covered for in-depth study, it was pointed out that the Philippines would present difficulties with respect to data availability. It was agreed that Mexico and Pakistan, in that order, would be suitable for selection and that the choice of Philippines or another country would be kept open for the time being, pending the availability of more information. The possibility of covering one or two states in India was also mentioned. It is not possible to include in this report details of resources requirements for the work envisaged in other countries. A few countries where considerable work has already been done and large stocks of information are available could be studied with nearly the same amount of funds as required for Tanzania. Countries for which little work has been done would require considerably more, either from World Bank sources or from the Regular Programme Budget of FAO."

15. "Outline of Actions

- (a) Identify, from existing maps, the six agroecological zones of Tanzania and the major types of farming within each area.
- (b) In cooperation with the staff who have completed the Agricultural Census, review the number and characteristics of farms (based on available original data) within each size group in each agroecological zone and decide upon the size of sample it is feasible to select in each size group based on the availability of participating staff for data collection and the time available (tentative deadline for data collection: end April 1975).
- (c) A training session will be held for all participating staff to explain the correct use of the data collection forms and data collection techniques to be used.
- (d) Data for the standard forms supplied by FAO will be recorded to the extent possible, from the original Census data. Field visits to sample farms will be made to collect, through on-farm interviews, any missing data or information.
- (e) A tabulation of cost/price data for past years determine seasonal and annual variations and trends, along with annual yield fluctuations will need to be completed. Considerable work has been done on this subject for some commodities; however, it is likely that additional information will be required.
- (f) Data processing and analysis will be completed at FAO Headquarters with the assistance of the leading farm management

"expertise from Tanzania. (Deadline for completion of farm management portion of Project: July 1975.)

16. Provisional Method of Analysis

The study is to cover farms and farming systems in all the main agroecological zones of Tanzania, in each of which 2,3,4... standard or representative systems will be identified and quantified in detail.

Standard plans can be formulated for each of these systems using either linear programming or monte-carlo simulation. The choice between these methods in each situation will depend primarily on the degree of system stability: linear programming will be used, generally, in low-risk, high-rainfall areas, and/or where the pattern of farming is stable. Simulation will be used where year-to-year yield and/or commodity price variability is high, e.g. in marginal rainfall areas or where the farming system depends primarily on a single commodity the price of which is a critical determinant in the long-run economic viability of the system, e.g. cotton. In this case, both computerized techniques are justified not primarily on grounds of the complexity of the problem, but the large volume of data to be handled.

Once the general nature or configurations of each system have been identified, it will be possible to prepare a file of linear programming and simulation models to which the data for each system - i.e. the parameters - can be applied. This will permit two things: planning or evaluation of existing and proposed farm systems at the micro farm/family level, and evaluation of the consequences of alternative Government policies before these are actually adopted.

17. Future Planning Aid

A map showing the Soil degradation hazards resulting from agricultural development could be compiled. Such a map would draw the planner's attention to the possible harmful consequences of agricultural development projects and ill-adapted techniques on non-suitable or marginally suitable soils as for instance salinisation hazard derived from irrigation in areas having an impervious subsoil, water erosion hazards in steep topography or wind erosion hazards in sandy areas. The preparation of this map will depend on the adequacy of the present budget."

Research Committee Financing:

18. It will be noted that the total cost of the Tanzanian section of Part II of the study, to be completed in FY75, is estimated at \$30,000. It does not follow that the cost of similar studies in, say, Mexico and Pakistan will be \$60,000. FAO have not yet estimated the costs in these countries, but two factors are relevant: first the Tanzanian experience should result in some overhead economies for the rest of the study; and second, the additional field work required from Tanzania--admittedly the most difficult of the three countries--may not have to be repeated in the other countries.

In agreeing to finance the Tanzanian component of Part II of the Study the Bank would not necessarily be committed to financing the rest of the study. Nevertheless, unless the Tanzanian study turned out to be a failure, there would be a presumption that we would finance the rest of Part II. It is provisionally estimated that if only 2 more countries were studied in depth, the additional cost in FY76 at constant prices would be about \$60,000.

20. Based on FAO's submission, quoted above, Messrs. Egbert and Raj Krishna had some discussions with Mr. Kenneth Bachman on the Objectives, Planned Program of Work and Method of Analysis. With regard to the latter, a decision must be taken on the use of programming and simulation after a further review of the data base.

O.P. Research
(Urban)

Mr. M. Cohen, ECDRB

September 20, 1974

B. B. King, VPD *BBK*

Delivery Systems for the Urban Poor

After reading this draft proposal a couple of times, I still find myself groping around in rather strange country. This may explain some of what follows. I can see that better institutions might mean better projects and that, therefore, it might be worth investigating what constitutes a "better" institution. But this is very general and I suppose I would have been more comfortable, had the purpose been focussed in somewhat more specific terms.

It seems to me that there are at least three different sorts of problems. The first concerns the availability of certain goods or services at levels of service that the prospective poor customers can afford: land, shelter, transportation, water and sanitation and maybe some social services. This is a problem of extending the range of available goods to a particular class of consumers that have not hitherto been able to exercise their preferences.

The second concerns the availability of an urban extension service comparable to an agricultural one for small businesses of all kinds. We have had one research project on the financing of small industry, which was not a startling success. At any rate, this is the distinction between the poor as producer and as consumer.

Finally, there is the question of the welfare of those who are so poor that they cannot be reached, either by extending the range of available levels of service downwards, or by services designed to increase their productivity. While this is undoubtedly a problem that all countries are going to face, and not only developing ones, it is a question in my mind whether it is a problem which the Bank should be, in the first instance, concerned with. It is likely to be of less operational significance as far as the projects we are concerned with; there is some parallel in the sort of target groups that we appear to have chosen in rural areas. Moreover, in view of the political sensitivity, it may well be that the best course is for us to give some encouragement to the countries to look into it themselves, either directly or indirectly through other donors who are more specialized in this sort of support.

There are, of course, a great variety of institutions in urban areas dealing with the poor, some of them specifically concerned with the poor, as such, or some segment of them, others only incidentally concerned with the poor as part of an overall functional role (such as the provision of water). I would feel somewhat happier, if one is going to do a project at all on the role of institutions in the implementation of projects, to limit the scope to some segment of the problem, no doubt better defined than I have done so roughly above.

Such a project could be more closely defined and manageable, more addressed to operational problems and more designed to exploit our comparative advantage (whatever that may be). I would imagine that this could be worked out in cooperation with the Transportation and Urban Projects Department. For example, what were the lessons learned or questions raised by your experience with the Dakar project?

I have one other general reservation about the relative importance of the institutions themselves as a cause of the success or non-success of a project. Here, I am cribbing from the African Rural Development Study by Uma Lele, where some of the lessons might, *mutatis mutandis*, be translated into the urban arena. See the first section of the Summary and Conclusions (pages 159 to 162 of the September 1974 version). As she points out, some of the constraints which affect the implementation of projects have their origin in national policies, which no amount of institutional building, at the local level, is going to overcome. It is not too difficult to think of comparable problems in urban areas.

cc: Messrs. D. Keare
R. Venkateswaran
D. C. Rao

BBKing:gm

D.P. Research
(Singapore Traffic)

September 20, 1974

Mr. David Bayliss
Chief Planner (Transportation Department)
Greater London Council
Department of Planning and Transportation
County Hall
SE 1 7PB
London
England

Dear David:

I would like to thank you for the help you and your staff gave to Ed Holland last month in his quest for speed-flow data and information on methods of measuring link times. Since his visit to London, we have talked with proponents of various measurement methods: moving car and four different methods of recording license numbers, viz: by photography, videotape, voice tape and a keyboard machine. The U.S. Department of Transportation had actually commissioned research, including hardware development, in this area. However, we have decided that for our purpose in Singapore we will use the voice recording method, as it appears to be the most nearly foolproof; the field keyboard machines developed for DOT are possibly the best for long term or continuing studies, but the training effort required to use them appears to be an important obstacle for our short term study.

A further word with Tony Hitchcock when he was through Washington last week convinced us that Ed should have a meeting with Hitchcock and his associates at the TRRL on the two related issues: (1) field procedures for speed-measurement (particularly with Neil Duncan) and (2) the general subject of speed-flow relations and their use in urban models (including Tanner and Goode). Hitchcock also suggested that you might wish someone from the GLC to join the discussions. We have suggested a date of October 14 at Crowthorne, as Ed is likely to be in England that one day on his way to Istanbul and Singapore.

The Singapore authorities have decided to postpone the restraint scheme, with perk and ride facilities coming on stream next May 1, and the full supplementary license scheme following around July 1. We are proceeding

Mr. David Bayliss

-2-

September 20, 1974

full force with the study; only the timing is slightly altered. Ed can give you the full details.

Warmest regards,

Sincerely yours,

Clell G. Harral
Chief, Transport Research Division
Transportation and Urban Projects Department

EPH
EPHolland/CGHarral:gbm

cc: Mr. Edward Holland
Mr. Peter Watson

[Handwritten signature]

[Faint handwritten notes]

OP-RESEARCH

Mr. Shamsheer Singh

September 19, 1974

JW
Jean Waelbroeck

Takayama Research Proposal

I have just met with B. King, D.C. Rao, B. Balassa and a representative of the Agriculture and Rural Development Division to discuss the Takayama research proposal. As you know this was submitted to the Ford Foundation and involves construction of a quadratic programming model of grains, soybeans, and meat production and consumption in the world. The Ford Foundation is financing this research by a \$90,000 grant; Mr. McNamara was considering increasing this amount by a grant financed from the Special Fund of the President.

It was decided that the quadratic programming aspect of the Takayama project is not of great interest to the Bank. The DRC has emphasized the applications of programming methods in planning and is today at the fore-front of this type of research in the world. On the other hand it appears that the work which Takayama proposes to undertake on estimation of supply and demand curves for grain, soybeans, and meat could complement in a very useful way the current effort of the Commodity Division to develop commodity models. The field of research (grains, soybeans, and meat) which Takayama plans to investigate is of course extremely important from a policy point of view.

It was strongly felt by participants at the meeting that a close cooperation between the Takayama team and the Commodities Division would be desirable if the Bank is to make the best use of this research. Such a contact is also desired by Takayama, who feels that it would help him to focus on dominant policy issues. For this reason it was tentatively suggested that the Bank support be granted via a side contract with the Takayama group, limited to their work on estimation of supply and demand functions and providing for direct cooperation with the IBRD staff. The work would be done in two stages - grains in the first year, other products in the second.

cc: Messrs. W. Tims, N. Carter, N. Hicks
Miss E. Yudin

JWaelbroeck:aop

D.P. Research
(R.P.O. 280
R.P.O. 283

Mr. D. C. Rao, VPD

September 19, 1974

B. B. King, VPD *JK*

LIMA : Collaboration with Fundacion Para el
Desarrollo Nacional on RPO 280
CHILE : Collaboration with ECLA on RPO 283
Terms of Reference

You will visit Lima on September 23/24 and Santiago from September 24 to 26. At Lima you will meet the Fundacion Para el Desarrollo Nacional to discuss their experience in collaboration with the Bank on RPO 280 (Comparative Experience with Land Reform in Latin America). At Santiago you and Mr. Ahluwalia will review the progress of RPO 283 (Evaluation of Latin American Data on Income Distribution) meeting Mr. Altimir and officials of ECLA.

cc: Mr. Stern

DCRao:gm *JK*

O.P. Research
(Traffic Rest. in
Singapore)

September 19, 1974

Mr. Bruno Wildermuth
c/o Mass Transit Study
10 Pender Road
Singapore

Dear Bruno:

The Watsons' baby (girl) arrived last Thursday.

Clell and Peter and I have appreciated your recent memos and will try to keep up our end of the communications. Copies of some pertinent correspondence are enclosed for your information. We are glad to know you have been working closely with the SRS people, and hope things will move along as planned. Venkateswaran recently came back from Singapore and reported that Lim Leong Geok had told him the restraint scheme was going ahead "on schedule", which he understood to mean February. I presume he misunderstood, and I trust you are keeping up two-way communications with Lim, as we promised to keep him informed, and you need information from him.

COMSIS
Regarding the speed-flow measurements, I am sending copies of some information from COMSIS Corporation on their license matching program, which may or may not help your thinking on the subject. As for the actual observations of license numbers, another conversation with Tony Hitchcock of TRRL has reinforced what he told us in London and what the COMSIS people told us here -- that the voice-recorder method is probably the easiest and most trouble-free method. They have given us the following suggestions:

- COMSIS
1. Get recorder units with stable tape speed.
 2. Run each tape through once without recording anything on it, to get out the initial stretchiness.
 3. Devise a method of synchronizing times between different observation points. The method used by COMSIS for a single path was to run a distinctive-looking "test car" over the path with someone in it recording elapsed time between observation points, while observers at each point said "test car" into their recorders as it passed their stations. For observations on several branches, we will need a more complex version of this or a different approach.

September 19, 1974

4. Read the time into the recorder at intervals to permit calibrating the recording speed (and presumably work a correction into the computer program on the basis of the recorded time).
5. The last three numerical digits on each license should be enough to permit matching without a significant number of errors due to duplication.
6. When the observer sees a car but cannot read the number he says "miss" to register the car for the volume count.
7. Trucks and buses can be identified as such by saying "truck" or "bus" and the selected part of the license number.
8. Occupancy of automobiles might be possible to observe, but it is likely to be difficult for the same observer to do everything.
9. Our plans should cover what to do in case of rain. If we want to continue recording in the rain, which might be useful, the observers should state the fact that it is raining, and should somehow protect their recorders from the water. Putting them inside plastic bags, which was tried in one situation, is likely to make them overheat.

Could you shop around a bit and see what machine(s) you think would be suitable, and buy a pair or more, and play with them until you feel you know what we need and how to use them?

I am being asked to spend some time on the Istanbul study in early October, and am tentatively planning to go there for the week of the 13th. I propose to go to Singapore about October 20 and spend about two weeks going over the work with you and with SRS to find out how things are going and what needs to be done on our end. Does this fit your plans and appear useful? On Hitchcock's suggestion, I would visit TRRL for a day enroute to get still more information on speed-flow methods and data, and their relation to models. If you have any reason to suggest different timing, please cable or TELEX so I can try to change plans.

Yours truly,

Edward P. Holland
Senior Economist
Transport Research Division
Transportation and Urban Projects Department

EPH
EPHolland:gbm

Enclosures

cc: Mr. Harral, Mr. Watson, Mr. Yucel

OP-RESERVA
(RPO # 316)

Mr. H. Dunkerley, TRU

September 19, 1974

B. B. King, VPD *h*

Urbanization Standards for Site and
Services Projects (RPO 316)

Mr. Stern's memorandum to Mr. Jaycox of June 27 listed three requirements. The first of these was that the terms of reference for the design group be modified and cleared with us. Have there been new terms of reference?

The third requirement was that there be consideration of ways in which developing country institutions could be involved. Mr. Nantel Brisset, who represents the Social Science Division of IDRC in their regional office in Bogota, called on me this morning and, among other things, raised the question of the possibility of some form of collaboration. You are probably aware that the IDRC has a low-cost housing project in Latin America - and also one in Asia. Each of them consists of a "network" of institutions concerned with low-cost housing in a number of different countries. The Latin American one has a common denominator with the Bank, in that the institution in El Salvador, for which a site and services credit is proposed, is actively represented in the "network".

Brisset and I agreed to explore, in a tentative way, whether an invitation to people in the Bank to a future meeting of the Latin American "network" would be acceptable on their part, and welcomed on ours. It is also worth considering whether both "networks" might be informed of our project (316) and enlisted, if they are suitable bodies, in support of it. Laquian is in overall charge of both IDRC projects and you may wish to consult him. However, I gather informally that he may be taking a sabbatical soon.

cc: Messrs. Jaycox
Churchill
Harral
D.C. Rao

BBKing:gm

*D. P. Kassah
(Traffic Restraint
Singapore)*

September 18, 1974

Mr. Cheng Tong Fatt
Permanent Secretary, National Development
National Development Building
Maxwell Road
Singapore 2

Dear Mr. Cheng:

Further to my letter of July 18, 1974, I would like to bring you up to date on the preparations for our Traffic Restraint Study in Singapore. We have contracted with Wilbur Smith and Associates for the services of Bruno Wildermuth to act as coordinator of various aspects of our work in Singapore. He will maintain liaison with the Road Transport Working Group, and with other governmental agencies concerned with implementing the anti-congestion measures or on which we will be drawing information and cooperation in accordance with our discussion in your office last May. He will also oversee data collection activities that are to be done for us by research firms and will work on adaptation of the computer models as required by this study.

For the interview surveys, after careful consideration of proposals from Survey Research Singapore (Pte.) Ltd. and from Applied Research Corporation, we have contracted with Survey Research Singapore. SRS was selected because of their trained permanent staff, their continuous maintenance of a household sampling frame (which ARC was unable to provide), and their extensive past experience in this kind of work. Applied Research Corporation's strength on the theoretical side is not what we feel is our principal need in this study.

I am sure you will also be interested to learn that officials of the United Nations Environment Programme have become interested in your plan for traffic restraint and in our study thereof, and have agreed to contribute financially to the study. They have also indicated an interest in the possibility of organizing a training session in Singapore for traffic engineering and transport planning personnel from a few other cities some time after the measures have been in effect long enough to be working smoothly. We agree that this would be a useful way of disseminating the knowledge gained in your experience to an audience for whom it would be very relevant. I hope that you will be receptive to this idea, which we can discuss at a later time.

September 18, 1974

Although we understand that the expected date for implementation of the park-and-ride scheme has now been set at May 1, 1975, we would like to make a start on the "beforehand" data as soon as possible, so that we can begin to learn about the problems ahead. Accordingly, we have instructed Mr. Wildermuth and SRS to proceed immediately with preparations for household interviews to be conducted as soon as convenient. Edward P. Holland, our study director, is planning to be in Singapore for ten days or so in the last part of October, primarily to work with Mr. Wildermuth and others in the data collection activities.

Our study team has recently been expanded by the recruitment of Peter Watson, who has taken a leave from the faculty of Northwestern University's Economics Department and Transportation Center to work primarily on the development of better travel behavior models from the Singapore data. He has already worked with Messrs. Holland and Wildermuth on the design of the sample survey and other matters, and will continue close collaboration with them on the model development work. Mr. Watson will probably spend a period in Singapore after the first of next year.

I hope that you and/or Lim Leong Geok will feel free to get in touch with us if you wish to know more about any aspect of the Traffic Restraint Study. Should you wish to discuss matters with Mr. Holland during his forthcoming visit, he will be glad to talk with you.

Because of their interest in the matters discussed in this letter, I am taking the liberty of sending copies to Mr. Hochstadt and to Mr. Wildermuth.

Yours sincerely,

Clell G. Herral
Chief, Transport Research Division
Transportation and Urban Projects Department

EPHolland:gbm

cc: Messrs. H.R. Hochstadt, Permanent Secretary, Ministry of Communications
Bruno Wildermuth, Wilbur Smith and Associates
Edward P. Holland, Transport Research Division
Peter L. Watson, Transport Research Division
R. Venkateswaran/George McBride, Urban Division II
Leslie F. Helmers, East Asia and Pacific

From: Bangkok via New York

INCOMING TELETYPE

*OP-RESEARCH
(11 NOV 308)*

RECEIVED

IB 47 AY18 TA7 (ESCAP) BANGKOK 62/61 16 SEP 17 2; 10 PM 1974

COMMUNICATIONS
SECTION

Distribution:

Mr. Ahluwalia

LTF

INTBAFRAD

WASHINGTON D.C.

(U.S.A.) ;

4089 AHLUWALIA YOUR LETTER 5 SEPTEMBER CONCERNING SELECTION OF CANDIDATES FOR POST RESEARCH ECONOMIST FOR THE JOINT ESCAP/IBRD PROJECT ON EVALUATION OF ASIAN DATA ON INCOME DISTRIBUTION. VISWANATHAN HAS REVIEWED ALL CANDIDATES AND HIS SUGGESTED ORDER OF PREFERENCE AS FOLLOWS ONE NARAPALASINGAM ;

Handwritten notes:
1. ...
2. ...
3. ...
4. ...
5. ...
6. ...
7. ...
8. ...
9. ...
10. ...
11. ...
12. ...
13. ...
14. ...
15. ...
16. ...
17. ...
18. ...
19. ...
20. ...
21. ...
22. ...
23. ...
24. ...
25. ...
26. ...
27. ...
28. ...
29. ...
30. ...
31. ...
32. ...
33. ...
34. ...
35. ...
36. ...
37. ...
38. ...
39. ...
40. ...
41. ...
42. ...
43. ...
44. ...
45. ...
46. ...
47. ...
48. ...
49. ...
50. ...
51. ...
52. ...
53. ...
54. ...
55. ...
56. ...
57. ...
58. ...
59. ...
60. ...
61. ...
62. ...
63. ...
64. ...
65. ...
66. ...
67. ...
68. ...
69. ...
70. ...
71. ...
72. ...
73. ...
74. ...
75. ...
76. ...
77. ...
78. ...
79. ...
80. ...
81. ...
82. ...
83. ...
84. ...
85. ...
86. ...
87. ...
88. ...
89. ...
90. ...
91. ...
92. ...
93. ...
94. ...
95. ...
96. ...
97. ...
98. ...
99. ...
100. ...
101. ...
102. ...
103. ...
104. ...
105. ...
106. ...
107. ...
108. ...
109. ...
110. ...
111. ...
112. ...
113. ...
114. ...
115. ...
116. ...
117. ...
118. ...
119. ...
120. ...
121. ...
122. ...
123. ...
124. ...
125. ...
126. ...
127. ...
128. ...
129. ...
130. ...
131. ...
132. ...
133. ...
134. ...
135. ...
136. ...
137. ...
138. ...
139. ...
140. ...
141. ...
142. ...
143. ...
144. ...
145. ...
146. ...
147. ...
148. ...
149. ...
150. ...
151. ...
152. ...
153. ...
154. ...
155. ...
156. ...
157. ...
158. ...
159. ...
160. ...
161. ...
162. ...
163. ...
164. ...
165. ...
166. ...
167. ...
168. ...
169. ...
170. ...
171. ...
172. ...
173. ...
174. ...
175. ...
176. ...
177. ...
178. ...
179. ...
180. ...
181. ...
182. ...
183. ...
184. ...
185. ...
186. ...
187. ...
188. ...
189. ...
190. ...
191. ...
192. ...
193. ...
194. ...
195. ...
196. ...
197. ...
198. ...
199. ...
200. ...
201. ...
202. ...
203. ...
204. ...
205. ...
206. ...
207. ...
208. ...
209. ...
210. ...
211. ...
212. ...
213. ...
214. ...
215. ...
216. ...
217. ...
218. ...
219. ...
220. ...
221. ...
222. ...
223. ...
224. ...
225. ...
226. ...
227. ...
228. ...
229. ...
230. ...
231. ...
232. ...
233. ...
234. ...
235. ...
236. ...
237. ...
238. ...
239. ...
240. ...
241. ...
242. ...
243. ...
244. ...
245. ...
246. ...
247. ...
248. ...
249. ...
250. ...
251. ...
252. ...
253. ...
254. ...
255. ...
256. ...
257. ...
258. ...
259. ...
260. ...
261. ...
262. ...
263. ...
264. ...
265. ...
266. ...
267. ...
268. ...
269. ...
270. ...
271. ...
272. ...
273. ...
274. ...
275. ...
276. ...
277. ...
278. ...
279. ...
280. ...
281. ...
282. ...
283. ...
284. ...
285. ...
286. ...
287. ...
288. ...
289. ...
290. ...
291. ...
292. ...
293. ...
294. ...
295. ...
296. ...
297. ...
298. ...
299. ...
300. ...
301. ...
302. ...
303. ...
304. ...
305. ...
306. ...
307. ...
308. ...
309. ...
310. ...
311. ...
312. ...
313. ...
314. ...
315. ...
316. ...
317. ...
318. ...
319. ...
320. ...
321. ...
322. ...
323. ...
324. ...
325. ...
326. ...
327. ...
328. ...
329. ...
330. ...
331. ...
332. ...
333. ...
334. ...
335. ...
336. ...
337. ...
338. ...
339. ...
340. ...
341. ...
342. ...
343. ...
344. ...
345. ...
346. ...
347. ...
348. ...
349. ...
350. ...
351. ...
352. ...
353. ...
354. ...
355. ...
356. ...
357. ...
358. ...
359. ...
360. ...
361. ...
362. ...
363. ...
364. ...
365. ...
366. ...
367. ...
368. ...
369. ...
370. ...
371. ...
372. ...
373. ...
374. ...
375. ...
376. ...
377. ...
378. ...
379. ...
380. ...
381. ...
382. ...
383. ...
384. ...
385. ...
386. ...
387. ...
388. ...
389. ...
390. ...
391. ...
392. ...
393. ...
394. ...
395. ...
396. ...
397. ...
398. ...
399. ...
400. ...
401. ...
402. ...
403. ...
404. ...
405. ...
406. ...
407. ...
408. ...
409. ...
410. ...
411. ...
412. ...
413. ...
414. ...
415. ...
416. ...
417. ...
418. ...
419. ...
420. ...
421. ...
422. ...
423. ...
424. ...
425. ...
426. ...
427. ...
428. ...
429. ...
430. ...
431. ...
432. ...
433. ...
434. ...
435. ...
436. ...
437. ...
438. ...
439. ...
440. ...
441. ...
442. ...
443. ...
444. ...
445. ...
446. ...
447. ...
448. ...
449. ...
450. ...
451. ...
452. ...
453. ...
454. ...
455. ...
456. ...
457. ...
458. ...
459. ...
460. ...
461. ...
462. ...
463. ...
464. ...
465. ...
466. ...
467. ...
468. ...
469. ...
470. ...
471. ...
472. ...
473. ...
474. ...
475. ...
476. ...
477. ...
478. ...
479. ...
480. ...
481. ...
482. ...
483. ...
484. ...
485. ...
486. ...
487. ...
488. ...
489. ...
490. ...
491. ...
492. ...
493. ...
494. ...
495. ...
496. ...
497. ...
498. ...
499. ...
500. ...
501. ...
502. ...
503. ...
504. ...
505. ...
506. ...
507. ...
508. ...
509. ...
510. ...
511. ...
512. ...
513. ...
514. ...
515. ...
516. ...
517. ...
518. ...
519. ...
520. ...
521. ...
522. ...
523. ...
524. ...
525. ...
526. ...
527. ...
528. ...
529. ...
530. ...
531. ...
532. ...
533. ...
534. ...
535. ...
536. ...
537. ...
538. ...
539. ...
540. ...
541. ...
542. ...
543. ...
544. ...
545. ...
546. ...
547. ...
548. ...
549. ...
550. ...
551. ...
552. ...
553. ...
554. ...
555. ...
556. ...
557. ...
558. ...
559. ...
560. ...
561. ...
562. ...
563. ...
564. ...
565. ...
566. ...
567. ...
568. ...
569. ...
570. ...
571. ...
572. ...
573. ...
574. ...
575. ...
576. ...
577. ...
578. ...
579. ...
580. ...
581. ...
582. ...
583. ...
584. ...
585. ...
586. ...
587. ...
588. ...
589. ...
590. ...
591. ...
592. ...
593. ...
594. ...
595. ...
596. ...
597. ...
598. ...
599. ...
600. ...
601. ...
602. ...
603. ...
604. ...
605. ...
606. ...
607. ...
608. ...
609. ...
610. ...
611. ...
612. ...
613. ...
614. ...
615. ...
616. ...
617. ...
618. ...
619. ...
620. ...
621. ...
622. ...
623. ...
624. ...
625. ...
626. ...
627. ...
628. ...
629. ...
630. ...
631. ...
632. ...
633. ...
634. ...
635. ...
636. ...
637. ...
638. ...
639. ...
640. ...
641. ...
642. ...
643. ...
644. ...
645. ...
646. ...
647. ...
648. ...
649. ...
650. ...
651. ...
652. ...
653. ...
654. ...
655. ...
656. ...
657. ...
658. ...
659. ...
660. ...
661. ...
662. ...
663. ...
664. ...
665. ...
666. ...
667. ...
668. ...
669. ...
670. ...
671. ...
672. ...
673. ...
674. ...
675. ...
676. ...
677. ...
678. ...
679. ...
680. ...
681. ...
682. ...
683. ...
684. ...
685. ...
686. ...
687. ...
688. ...
689. ...
690. ...
691. ...
692. ...
693. ...
694. ...
695. ...
696. ...
697. ...
698. ...
699. ...
700. ...
701. ...
702. ...
703. ...
704. ...
705. ...
706. ...
707. ...
708. ...
709. ...
710. ...
711. ...
712. ...
713. ...
714. ...
715. ...
716. ...
717. ...
718. ...
719. ...
720. ...
721. ...
722. ...
723. ...
724. ...
725. ...
726. ...
727. ...
728. ...
729. ...
730. ...
731. ...
732. ...
733. ...
734. ...
735. ...
736. ...
737. ...
738. ...
739. ...
740. ...
741. ...
742. ...
743. ...
744. ...
745. ...
746. ...
747. ...
748. ...
749. ...
750. ...
751. ...
752. ...
753. ...
754. ...
755. ...
756. ...
757. ...
758. ...
759. ...
760. ...
761. ...
762. ...
763. ...
764. ...
765. ...
766. ...
767. ...
768. ...
769. ...
770. ...
771. ...
772. ...
773. ...
774. ...
775. ...
776. ...
777. ...
778. ...
779. ...
780. ...
781. ...
782. ...
783. ...
784. ...
785. ...
786. ...
787. ...
788. ...
789. ...
790. ...
791. ...
792. ...
793. ...
794. ...
795. ...
796. ...
797. ...
798. ...
799. ...
800. ...
801. ...
802. ...
803. ...
804. ...
805. ...
806. ...
807. ...
808. ...
809. ...
810. ...
811. ...
812. ...
813. ...
814. ...
815. ...
816. ...
817. ...
818. ...
819. ...
820. ...
821. ...
822. ...
823. ...
824. ...
825. ...
826. ...
827. ...
828. ...
829. ...
830. ...
831. ...
832. ...
833. ...
834. ...
835. ...
836. ...
837. ...
838. ...
839. ...
840. ...
841. ...
842. ...
843. ...
844. ...
845. ...
846. ...
847. ...
848. ...
849. ...
850. ...
851. ...
852. ...
853. ...
854. ...
855. ...
856. ...
857. ...
858. ...
859. ...
860. ...
861. ...
862. ...
863. ...
864. ...
865. ...
866. ...
867. ...
868. ...
869. ...
870. ...
871. ...
872. ...
873. ...
874. ...
875. ...
876. ...
877. ...
878. ...
879. ...
880. ...
881. ...
882. ...
883. ...
884. ...
885. ...
886. ...
887. ...
888. ...
889. ...
890. ...
891. ...
892. ...
893. ...
894. ...
895. ...
896. ...
897. ...
898. ...
899. ...
900. ...
901. ...
902. ...
903. ...
904. ...
905. ...
906. ...
907. ...
908. ...
909. ...
910. ...
911. ...
912. ...
913. ...
914. ...
915. ...
916. ...
917. ...
918. ...
919. ...
920. ...
921. ...
922. ...
923. ...
924. ...
925. ...
926. ...
927. ...
928. ...
929. ...
930. ...
931. ...
932. ...
933. ...
934. ...
935. ...
936. ...
937. ...
938. ...
939. ...
940. ...
941. ...
942. ...
943. ...
944. ...
945. ...
946. ...
947. ...
948. ...
949. ...
950. ...
951. ...
952. ...
953. ...
954. ...
955. ...
956. ...
957. ...
958. ...
959. ...
960. ...
961. ...
962. ...
963. ...
964. ...
965. ...
966. ...
967. ...
968. ...
969. ...
970. ...
971. ...
972. ...
973. ...
974. ...
975. ...
976. ...
977. ...
978. ...
979. ...
980. ...
981. ...
982. ...
983. ...
984. ...
985. ...
986. ...
987. ...
988. ...
989. ...
990. ...
991. ...
992. ...
993. ...
994. ...
995. ...
996. ...
997. ...
998. ...
999. ...
1000. ...

P2 TA7 INTBAFRAD ;

TWM KANSAL THREE SADIQ FOUR SARMA FIVE IYENGAR SIX VISARIA ;
ROYSMITH "

COL NIL "

OP-RESEARCH
(RPO #320)

September 17, 1974

Mr. A. Silverleaf, Director
Transport and Road Research Laboratory
Department of the Environment
Crowthorne
Berkshire RG11 6AU
England

Dear Mr. Silverleaf:

It was a pleasure to lunch with you last June and learn a little more about the broader activities of the TRRL outside the Overseas Unit with whose work we are most familiar. I regret that we did not have a chance to chat about some of the World Bank's interest in transport research outside the area of highway design standards. Perhaps we can at a later date.

Last Friday, we had a very useful discussion with Dr. A. Hitchcock covering various aspects of our respective research programs in urban transportation and development. As you may be aware, one of our current research projects combines an empirical study of trip-makers' decisions in Singapore and the monitoring of the impacts of an important traffic restraint scheme which the Government intends to implement there next year.

One of the problems that we discussed with Dr. Hitchcock is our need to make accurate measurements of speed-flow relations on selected route segments in the Singapore network before and after the restraint scheme is implemented. While we have had no previous experience in making such measurements in urban traffic conditions, what we have read and heard from experts has convinced us that probably the best approach is reading license numbers into tape recorders and using a computer program to match the license numbers and compute elapsed times and speeds.

Dr. Hitchcock suggested that it would be useful for our project director, Dr. E.P. Holland, (who took part in the discussion), to stop at the TRRL next month on his way to Singapore and talk with Neil Duncan, who, we understand, has worked in detail with this technique. He suggested further that a meeting might be set up between Messrs. Duncan, Goode, Tanner, and Holland, to discuss not just the measurement technique but the

Mr. A. Silverleaf

-2-

September 17, 1974

general subject of speed-flow relations in the context of urban models.

Would you be willing to contribute the Laboratory's assistance in this way? A convenient date, from the viewpoint of Dr. Holland's other travel plans, would be Monday, October 14. Dr. Hitchcock indicated that that would be convenient for him also. Could you advise whether it would be possible for Mr. Duncan and the other suggested participants to meet with Dr. Holland at the TRRL on the 14th?

I look forward to your reply, hoping it will be affirmative.

Yours sincerely,

Clell G. Harral
Chief, Transport Research Division
Transportation and Urban Projects Department

CGHarral:gbm

cc: E.P. Holland, Transport Research Division

*OP-RESEARCH
(RPO# 315)*

INTERNATIONAL DEVELOPMENT
ASSOCIATION

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE
CORPORATION

OUTGOING WIRE

TO: SAMIR BASTA

DATE: SEPTEMBER 16, 1974

HYATT

CLASS OF

MANILA

SERVICE: LT *[Signature]*

COUNTRY: PHILIPPINES

(Ext. 3959)

TEXT:
Cable No.:

REF NUTRITION STUDY INDONESIA STOP WE BRIEFLY DISCUSSED PROPOSAL
WITH SUKIRMAN IN WASHINGTON STOP HE WILL PREPARE DETAILED PLAN OF
WORK IN INDONESIA AND WILL SEND IT TO US BY MID OCTOBER STOP WHEN YOU
MEET HIM IN PHILIPPINES TRY TO REACH UNDERSTANDING ON ALPHA WHAT HEALTH
NUTRITION DEFICIENCIES ARE TO BE EXAMINED BETA WHAT ALTERNATIVE MECHANISMS
ARE TO BE CONSIDERED AND GAMMA SUGGESTED INTERVENTION PERIODS STOP WE
HAVE NOT INDICATED ANY BUDGET TO SUKIRMAN WITH UNDERSTANDING THAT THEY
WILL FIRST PREPARE PROPOSAL AND A BUDGET WHICH WE WILL REVIEW STOP REGARDS

HARRAL

NOT TO BE TRANSMITTED

AUTHORIZED BY:

CLEARANCES AND COPY DISTRIBUTION:

NAME Clall G. Harral

DEPT. Transportation & Urban Projects

SIGNATURE *[Signature]*
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE: *[Signature]* CGHarral :phm

For Use By Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *[Signature]*

OUTGOING WIRE

TO: SAHAR BASTA
 COUNTRY: PHILIPPINES
 TEXT: Cable No.
 CLASS OF SERVICE: (Text)
 DATE: SEPTEMBER 16, 1974
 (Text)

THE WASHINGTON STUDY INDONESIAN STOP WE WILLY DISCUSSED PROPOSAL
 WITH SURINAM IN WASHINGTON STOP HE WILL PREPARE DETAILED PLAN BY
 WORK IN INDONESIA AND WILL SEND IT TO US BY MID OCTOBER STOP WITH YOU
 MEET HIM IN PHILIPPINES TRY TO REACH UNDERSTANDING ON ALPHA WHAT HEALTH
 WASHINGTON DECISIONS ARE TO BE EXAMINED DATA WHAT ALTERNATIVE MECHANISMS
 ARE TO BE CONSIDERED AND GAMMA SUGGESTED INTERMISSION PERIODS STOP WE
 HAVE NOT INDICATED ANY BUDGET TO SURINAM WITH UNDERSTANDING THAT THEY
 WILL FIRST PREPARE PROPOSAL AND A BUDGET WHICH WE WILL REVIEW STOP REMAINS

HARRAL

NOT TO BE TRANSMITTED

COMMUNICATIONS
 SEP 17 1 34 AM 1974
 DISPATCHED

AUTHORIZED SIGNATURE AND TITLE
 NAME: Orlin G. Harrel
 DEPT: Transportation & Urban Projects
 SIGNATURE: *[Signature]*
 REFERENCE: *[Signature]*
 SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE
 ORIGINAL (File Copy)
 IMPORTANT: See Department Guide for preparation instructions

Checked for Dispatch
 For Use by Communications Section

Commodities -
Buffer Stocks

D.P. Research

Mr. Wouter Tims

September 16, 1974

Jean Waelbroeck *JW*

Buffer Stock Study

Sandee has indeed been studying the economics of seasonal grain storage in India. I remember seeing a paper of his on this topic in 1969. This was a "first report" and used invented data. I have not seen later more realistic versions of the work.

His interest shifted in the recent past to the income distribution implications of Indian grain purchasing policies. He has sent me his most recent paper on the subject. This examines by linear programming grain purchasing policies which would reduce the impact of harvest fluctuations on incomes, and is rather interesting from a methodological point of view. The paper uses real data. I have a copy in my office.

As you know Sandee is in the process of moving from Bristol to the Planbureau where he will be special economic adviser.

As to the study proposed by Krishna, I am a little skeptical about the feasibility of constructing a good simulation model in six months, given that we do not have available much econometric data about supply and demand for food, about the random component of food supply and demand and of international food prices. "Food" is a broad area of investigation.

cc: Mr. Singh

JWaelbroeck:aop

cc: Ms. Tenzer
Mr. Mashler
Mr. Hoffman

OP-LIAISON
✓ CC: OP-RESEARCH

September 13, 1974

Mr. David Hopper
International Development
Research Centre
2197 Riverside Drive
Ottawa

Dear David,

I am writing to you in the hope that we can move the proposals for mineral exploration research off of dead center at the OECD Planning Group this October. As I understand it, Marthe Tenzer is holding a list of half a dozen vetted proposals for geological research and is looking for a way to get them funded.

The sense of the meeting last spring was that there is a need for a small secretariat which will work with researchers to refine their proposals and then submit these for funding to interested bilateral agencies. The Group was unable to agree on where such a secretariat should be located, and for various reasons no one present was willing to offer his own agency as a champion.

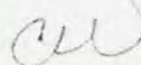
Ernie Stern suggested that IDRC might be willing to host such a function. Is this something you would be willing to take on?

The best alternative suggestion Mike Hoffman and I can think of is the UN Mineral Development Fund, which is basically an operating agency but might be induced to expand its role, especially if the funding for the special staff came from an outside source. Another possibility is the UN Office of Science and Technology, if the new director is interested and is willing to take on the job in a business-like way.

I do hope we can arrive at some solution since I hate to see a well-developed idea go to waste. I have already contacted Mr. Evert at UNDP and hope to meet the new UN/OST director this month. But I can't help but think that you could play a valuable role here.

With best regards,

Sincerely yours,



Charles Weiss
Science and Technology Advisor

✓ B&P - DT-RESERVE
(CPO 281)
Ivory Coast - Cocoa (2) RPO 281

Mr. J. Burke Knapp, Senior Vice President,
Operations.
Ernest Stern, Director, Development Policy

September 13, 1974

Cocoa

1. You will recall that during Board discussion of our policy paper on Cocoa ("The World Cocoa Market - Review and Outlook for Bank Lending", R74-36, February 22, 1974), Mr. K. Gyasi-Twum, Alternative Executive Director for Ghana, had expressed concern that our long-term price forecast may be "optimistic" (high) and Bank may over-invest in cocoa.
2. Ghana seems to be worried that Ivory Coast and Togo may be over-expanding in cocoa and Mr. Gyasi-Twum may again raise the question when the next Ivory Coast project goes to the Board possibly in November.
3. We have consulted the International Cocoa Organization (ICCO) about our Second Ivory Coast Cocoa Project. ICCO has expressed unqualified support for the project (see para. 2 of the attached letter).

5 SEPT. 174

cc: Messrs. Chenery, Tims

SSingh:jmca

D.P. Research
(Traffic
Restraint in
Singapore)

September 13, 1974

Mr. D.T. Routh
Department of the Environment
2 Marsham Street
London SW1
England

Dear Mr. Routh:

I apologize for the delay in replying to your letter to Mr. Harral, which he asked me to answer some time ago.

Our study of traffic restraint in Singapore is designed around the Singapore government's announced plans for instituting a scheme combining fringe car parks, shuttle bus service, supplementary licenses for entry to the central area during the period 7:30 to 9:30 a.m., and high central-area parking charges. The scheme is described in "A Plan for the Relief of Congestion in the City", an official publication issued last May, of which I am enclosing a copy of the English portion. The latest we have heard on implementation of the scheme is that the fringe parking areas and shuttle buses are expected to be in operation about May 1, 1975, and that the restraints will be imposed two months later.

Meanwhile, we are planning and contracting for extensive data collection activities to be carried out during the next six months, and for follow-up surveys and observations a few months after the restraints are instituted. The overall research plans are described in the enclosed Research Proposal. (The statements about timing and the schedule chart shown in Annex 2 are no longer realistic, but the description is otherwise pretty valid.

Also enclosed for your information and comment are two memoranda by Peter Watson, who has taken a leave of absence from Northwestern University's Economics Department and Transportation Center to work with us on this study. The memo of August 23 elaborates our research objectives much more explicitly than before, as well as indicating some of the approaches we have in mind for pursuing each of the two main objectives -- impact evaluation and model development. The August 21 memo explains the design of the sample for the household survey, which is to contribute to both objectives.

Mr. D.T. Routh

-2-

September 13, 1974

Today we have had the benefit of a further discussion of this study with Tony Hitchcock, who is in America for a few days after having been -- among other places -- in Singapore. Perhaps he will have some impressions to share with you. We would welcome any comments or suggestions you might offer us about any aspects of the study, and we will send you any reports on it that we distribute.

Yours Sincerely,

Edward P. Holland
Senior Economist
Transport Research Division
Transportation and Urban Projects Department

EPH
EPHolland:gbm

cc: Mr. Clell G. Harral, Transportation and Urban Projects
Mr. Peter L. Watson, Transportation and Urban Projects

Attachments (4)

D.P. Research
Fascam

Mr. B. B. King, Research Adviser, VPD

September 13, 1974

Ernest Stern, ^{ES} Director, VPD

- (1) Ghent - Meeting of the European Association of Research and Training Institutions
- (2) Visit to the Ministry of Economic Cooperation in Bonn, and several research institutions in Germany
Terms of Reference

You will attend, as an observer, the meeting of the European Association of Research and Training Institutions in Ghent, from September 26 to 28. After the meeting you will visit various German research institutions in Hamburg, Berlin and other cities as arranged with the German Ministry of Economic Cooperation, ending with discussions with the latter on research topics.

BBKing:gm

BBK

*OP RESEARCH
CRPO #317*

INTERNATIONAL DEVELOPMENT
ASSOCIATION

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE
CORPORATION

OUTGOING WIRE

TO: ROGER SLADE
FAO
ROME

DATE: SEPTEMBER 13, 1974

CLASS OF SERVICE: LT *lesc*
Ext. 5619 *dw*

COUNTRY: ITALY

TEXT:

Cable No.: ROGER NORTON SUGGESTS I VISIT YOU OCTOBER ONE THROUGH FOUR TO DISCUSS

MUDA PROJECT STOP PLEASE CONFIRM IF CONVENIENT AND IF DATA TAPE AVAILABLE

REGARDS PETER

PETER HAZELL
INTBAFRAD

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME Mr. Roger D. Norton

DEPT. Development Research Center

SIGNATURE *Roger D. Norton*
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

CLEARANCES AND COPY DISTRIBUTION:

For Use By Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *[Signature]*

OUTGOING WIRE

TO: ROGER SLADE
 YAO
 ROME

DATE: SEPTEMBER 13, 1974
 CLASS OF SERVICE: *LT*
 EXT. 5619

COUNTRY: ITALY

TEXT: ROGER NORTON SUGGESTS I VISIT YOU OCTOBER ONE THROUGH FOUR TO DISCUSS MUDA PROJECT STOP PLEASE CONFIRM IF CONVENIENT AND IF DATA TAPE AVAILABLE
 REGARDS PETER

PETER HASSELL
 INTBAPRAD

NOT TO BE TRANSMITTED

<p>CLASSIFIED BY: [] AUTHORITY: []</p>	<p>CLEARANCE AND COPY DISTRIBUTION</p>	<p>NAME: Mr. Roger D. Norton DEPT: Development Research Center SIGNATURE: <i>Roger D. Norton</i> SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE: [] COMMUNICATIONS SEP 14 3 41 AM 1974 DISPATCHED ORIGINAL (File Copy) IMPORTANT: See Director's Guide for preparing forms.</p>
-------------------------------------------------------	----------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

OP-RESEARCH

Mr. J. Waelbroeck, EPDIE

September 13, 1974

B. B. King, VPD *BB*

Ford Foundation; Takayama Proposal

I would be grateful if you would initiate the next step, in consultation, in the first instance, with Messrs. Balassa and Egbert. I would envisage that we should consider whether we should ask Takayama to submit a revised and more focussed proposal with specific provision for consultation and collaboration with the Bank; and if so, along what lines. I propose to check with the Ford Foundation that they have no objection.

In considering whether we should ask Takayama to submit a revised proposal, I think we should assess the chances that we would be prepared to recommend such a proposal to Mr. McNamara for support from his contingency funds. Takayama understands that if he were asked to submit a revised proposal, there would still be a risk that it would not be accepted. However, I do not think we should ask him if we have a priori reason to believe that the risk is very high.

One of the possible benefits, perhaps the most probable, from the Takayama proposal would be better price forecasts for the commodities covered. However, it would be necessary to judge whether the improbability of collecting and using good production data in the developing countries is likely to be a significant disadvantage in this respect and, if not, whether the results to be expected are likely to be a significant improvement on other models such as the USDA.

A second question is whether the Takayama proposal is likely to contribute anything to the determination of an appropriate buffer stock policy, which seems less probable than before; and, not so ambitiously, whether it could at some later stage be adapted to this end. It should be noted that this aspect of the proposal was originally something of a selling point.

A third question would be the extent to which Takayama could give consideration to the possible future integration of production data from developing countries, if, as is now contemplated, a serious effort is made to collect them. In this respect, guidance as to the sort of data that would be required would be, presumably, an ingredient of the proposal. No doubt, other forms of consultation would be desirable, for example, on projects in the DRC with similar objectives.

Consideration might also be given as to whether phases in the proposal can be identified, at the end of which a somewhat more formal review of progress and consultation could be conducted.

cc: Messrs. Tims, Balassa, Egbert, Norton, Stoutjesdijk,
Shamsher Singh, Lowenstein, D. C. Rao

BBKing:gm

Cap. Mr.
✓ C: 1BRD - O.P. Research

Mr. D.R. Khatkhata (IMF) and
Mr. R. Gulhoti (IBRD)

September 12, 1974

David Gill

Research into the Role of Central Banks
Activities in Strengthening Money Market
and Securities Markets Liquidity Mechanisms

At our Capital Markets Coordinating Committee meeting yesterday I made the suggestion that either the IMF or the Bank or both in cooperation might wish to consider the above research project. I also mentioned that we had done some work on the subject in relation to some of our projects and, hence, in addition to passing on our rough material attached, we would also be prepared to assist as needed.

As promised, following are certain comments on the end objective of the paper proposed and an outline of what it might contain.

As will be gathered from the attached, IFC has embarked on a number of investment projects at the request of member governments to set up liquidity mechanisms to help strengthen domestic securities markets. We have also been approached by two other governments (Colombia and Jamaica) but for various reasons decided against doing anything. The recent IMF/Bank mission to Panama which looked into the possibilities of developing a local market for government paper also suggested the need for some kind of liquidity mechanism if any attempt is to be made to establish such a market.

Our work in this field to date has been entirely pragmatic and supported with only the barest fundamental research into the costs and benefits to the economies concerned and into the experiences of other countries' attempts in the past to establish similar mechanisms.

Therefore, the primary objective would be to ascertain the best way to go about establishing such mechanisms in the light of experience and the particular circumstances of the countries in question. The second objective would be to attempt to develop a more thorough understanding of: (a) the relative importance of such mechanisms as compared to the other key ingredients required for the development of money markets and securities markets (see the attached), and (b) the benefits (or costs) to the public sector -- in most cases the Central Bank -- in providing the necessary assistance usually required to establish such mechanisms and see whether alternative arrangements could be made to achieve the same result.

Our very limited research seems to indicate that Central Bank rediscount facilities of one form or another are essential at least with respect to the development of the money market. We are less certain as to whether it is needed with respect to a securities market except to the extent that the existence of a money market tends to set the stage for the development of a securities market. We also get the impression that the development of an appropriate series of commercial bank reserve requirements, including the acceptance (or requirement) by the monetary authorities of government short-term paper and/or certain types of call loans to securities dealers as part of commercial bank reserve requirements, are also necessary as a complement to the rediscount facilities.

With the above in mind, the paper might be designed to contain the following sections:

- (1) A summation of the policy issues and objectives from the point of view of Central Banks and the monetary authorities in designing their rediscounting facilities and commercial bank reserve requirement arrangements. This might include:
 - (a) implications with respect to monetary and fiscal policy;
 - (b) concern for the viability, liquidity and strength of the commercial banks and other financial institutions involved; and
 - (c) the strengthening of money and securities markets as sources of public and private sector finance.
- (2) A review of existing Central Bank rediscounting facilities and commercial bank reserve requirements in a representative group of both developed and developing countries along with some measures of the size and liquidity of the money markets and securities markets in the same countries. This might include:
 - (a) a tabulation of rediscounting facilities (types of paper, interest rate charges, and volume limits, and outstandings.
 - (b) a tabulation of reserve requirements by purpose (maintenance of commercial bank viability, government financing, allocation of credit by banks, monetary policy) and covering interest rates, minimum and maximum ratios, and outstanding volumes.

(3) Conclusions as to:

- (a) the merits from the point of view of the various policy objectives or the various techniques used;
- (b) the circumstances where using Central Bank rediscount facilities and reserve requirements as tools for developing money markets may be warranted, and appropriate techniques.

Attachments

cc - Capital Markets Coordinating Committee

DG111:dbb

NOTES ON SECURITIES MARKET LIQUIDITY MECHANISMS

A. General Factors to be Considered

Broadly speaking, liquidity in securities markets is a very important ingredient in establishing the confidence of investors and minimizing the cost of intermediation. In practice, it is difficult to prove whether the provision of a high degree of liquidity is central to the establishment of confidence or whether it is really the more fundamental factors relating to investor confidence which, in fact, produce the circumstances which lead to a high level of liquidity. These fundamental factors include:

- (1) A sound legal and regulatory framework.
- (2) Reliable and accurate financial reporting and analysis.
- (3) Adequate depth and breadth of the securities market - a substantial aggregate volume of savings divided amongst a large number and different types of investors on one hand and a wide variety of securities on the other, with frequent transactions.

Put another way, a liquidity mechanism by itself cannot reduce the costs of intermediation and increase investor confidence significantly. Furthermore, if the fundamental factors are all present, and if there is a sophisticated banking system, the need for a special liquidity mechanism is largely eliminated.

Nevertheless, there are frequent circumstances in emerging securities markets where the other conditions are satisfactory to varying degrees but adequate liquidity, as such, is absent because

of technical reasons and, hence, such a mechanism can be of real value. Usually, in these circumstances, lack of liquidity is largely a result of two factors:

Firstly, the inevitable lack of sophistication and confidence associated with an emerging market, which discourages market making activities by financial institutions. A logical consequence of this is also an absence of strong securities market institutions as such.

The second factor is that in designing and carrying out their monetary policies some governments do not take into consideration these policies' impact on the requirements of an active money market and indirectly of an active securities market. An example of this factor is the lack of appropriate rediscounting facilities of some types of securities (usually short-term government bonds) by the central bank, either through the commercial banks or directly to securities dealers. In some cases, this is a conscious and well founded decision. However, in those countries where overall policy decisions lead to a need to encourage active money and securities markets, such policies are counterproductive. This paper deals with the latter situation.

B. Types of Financing Associated with Securities Markets

There are six possible separate types of working capital financing associated with securities markets. They can be grouped, firstly, as those associated with the secondary market and, secondly, as those associated with the primary market.

The first group consists of :

- (1) The financing of investor margin accounts (assisting savers to purchase outstanding securities on credit);

- (2) the financing of day-to-day transactions for the customers of brokerage firms (where the broker has to pay for a security purchased for a customer before the customer has paid the broker); and
- (3) market making activities in existing securities.

All of these encourage increased trading activity in securities and, hence, liquidity. Increasing liquidity in the secondary market through increasing investors' confidence in their ability to buy and sell quickly and at a reasonable cost aids considerably in the development of the primary market, as investors become more willing to purchase new issues if they are confident that they can sell later if the need arises.

The second group, associated with the primary market, includes:

- (1) the financing of firm underwritings of new issues;
- (2) the financing of market stabilization activities (market making) in the process of distributing new issues; and
- (3) providing credit to investors purchasing new issues.

Points (2) and (3) are marginal insofar as they can also be considered as secondary market activities. However, a distinction can be drawn in a policy sense as, in some circumstances, especially when incentives are being provided by governmental agencies for the securities markets, special assistance for the placing of new issues can be more readily justified than for the promotion of the secondary market (although in developed countries an adequate liquid secondary market is considered a prerequisite for a strong primary market).

C. Country Examples

The most recent examples in the securities markets of developing countries are the experiences in Brazil, Venezuela and Korea. The paragraphs on each country describe both the conditions that lead to the interest on the part of the authorities in special liquidity mechanisms and the specifics of the mechanisms. Also illustrated are the contextual factors underlying the financial markets in some developed countries.

Perhaps the main value of the information is that it demonstrates that the unique circumstances of each country emphasize the need for a unique mechanism in each case, specially developed to meet the current problems and particular circumstances of the country in question.

At the same time, it should be emphasized that liquidity mechanisms, as such, can only smooth out to some degree short-term fluctuations in prices brought about by temporary imbalances between supply and demand. They can do nothing about fundamental upward and downward price trends, such as have been experienced in most securities markets in recent years.

Brazil

Some five years ago the Ministry of Finance and the Central Bank of Brazil concluded that a special liquidity mechanism would be desirable to encourage the further development of the securities market, especially firm underwritings of new issues and market making. In Brazil, commercial banks are prohibited from lending to investment banks (institutions which can make direct medium-term loans, manage portfolios and carry out underwriting activities but not act as brokers) or to brokers and, consequently, most financing comes from the institutions' own resources. Most of the substantial volume of new issues (encouraged by very attractive fiscal incentives provided to both investors and

issuers of securities) was done on a "best efforts"^{1/} basis and, consequently, at relatively low prices. Therefore, it was deemed that a mechanism which would ensure working capital financing for firm underwritings would increase the amount of firm underwritings and also make the terms more reasonable for the issuing companies. The major problem with the best efforts underwriting approach was that, during the period in question, new stock issues went to very substantial premiums (200% or 300%) in a matter of days and, insofar as some investment banks tended to buy significant amounts of the securities themselves to sell later in the secondary market, both the issuing entities and the ultimate investors tended to be penalized. At the same time, long term corporate bond financing was almost non-existent. The primary objective of the mechanism, therefore, was to promote "firm" underwritings of both bonds and stocks. The former to provide an alternative means of borrowing to corporations and the latter for the reason already described. The secondary objective was market making in those new issues which were underwritten. There was little justification to provide market making financing for issues already outstanding as a result of "best efforts" underwritings and little justification for providing financing to promote investors buying securities on credit as the usually strong market reception at the time the idea was conceived indicated an adequate demand.

The mechanism itself (called FUMCAP) is a fund controlled by the Central Bank which provided financing to approved investment banks for specific firm underwritings, the terms of the issue itself

^{1/} A "best efforts" underwriting is one where the underwriter only undertakes to do his best to sell the issue. He is not committed to buy any amount not sold. In the case of a "firm" underwriting he is committed to purchase the entire amount regardless of how much is sold.

having to be approved by one of two government investment institutions and finally also by the division of the Central Bank administering FUMCAP. FUMCAP's resources are loans from government agencies (50%). USAID and the International Finance Corporation (IFC).

Financial market conditions deteriorated substantially in Brazil between the time the plan was first initiated and its implementation. Because of that, and certain technical problems - largely associated with complex administrative procedures for getting issues approved for financing and the fact that investment banks (most of which are controlled by commercial banks) could also arrange direct financings for their clients, frequently more easily and on a more profitable basis to the investment bank or its controlling shareholder - FUMCAP has so far financed only one issue. Nevertheless, in the absence of arrangements to permit and encourage commercial banks to provide such financing directly to the securities market in a meaningful way, FUMCAP is a necessary mechanism. Its effectiveness will be increased as administrative reforms are accomplished.

Venezuela

Unlike Brazil, Venezuela already has a fairly active group of institutions, mainly "financieras" (development finance companies) and brokers providing some underwriting facilities. However, as in Brazil, there are no specific Central Bank arrangements to encourage commercial banks to provide financing facilities to securities dealers, although in practice, as a result of a somewhat higher degree of sophistication in this respect, some commercial banks do provide limited

facilities. Consequently, when the authorities decided two years ago that a liquidity mechanism was needed, it was concluded that the primary objective should be to encourage market making as a means of strengthening the secondary market to indirectly promote the primary market. It was

concluded that the development of an efficient market making mechanism for bonds (which was particularly feasible as a result of the existing reasonably substantial breadth and depth of the bond market), the improved liquidity and, hence, increased confidence could be expected to reduce the interest rate cost of new bond issues by approximately 1% relative to the existing level of interest rates.

As a result of the Venezuelan authorities' particular approach to the development of the private sector, "PROMECA", the entity which is now in the process of being established to carry out this function, will be a financial institution in which the government would be a minority shareholder (15%), some 60 Venezuelan private sector financial institutions and industrial corporations will hold 70%, and IFC 15% of the stock. Because of the lack of interest (or expertise) in market making by other securities market institutions in Venezuela, PROMECA itself will act as a market maker, taking positions for its own account and risk. Its borrowings will be provided by its shareholders, that is, financial institutions (as loans which might otherwise have gone to brokers directly) and industrial corporations (as the assistance provided to them makes it possible to sell securities on a more attractive basis than otherwise).

In concept, therefore, PROMEGA might be looked upon as a cooperative venture where all participants in the financial markets will play a role in improving secondary market liquidity for their mutual benefit during a period where an insufficient number of them would be able or willing to do so directly to achieve useful results. PROMEGA will deal only with other financial institutions in its market making activities and will conduct its business in such a way as to encourage securities market institutions to develop their own expertise. Thus, over time, PROMEGA would be expected to retire from its central role and become one of many market making institutions as both the commercial banks and the securities market institutions developed the expertise and willingness to handle the function directly.

Korea

The Korean authorities, who only recently have decided to establish a liquidity mechanism, benefitted both from the experience and planning of the Brazilian and Venezuelan authorities and from a slightly more advanced existing financial infrastructure. That is, a broader range of specialized financial institutions in the securities field with less conflicting interests than is the case in Brazil. Further, the commercial banks have a more constructive approach to financing securities activities, albeit they have no direct incentives in the form of rediscounting facilities or the right to use such loans

as part of their own liquid reserves. There is also an existing liquidity mechanism in the form of a government-controlled corporation which provides working capital loans to brokers to finance customers' margin accounts and day-to-day transactions. The primary objective of the new mechanism in Korea was to meet deficiencies in the underwriting of new issues. This was especially pertinent insofar as an important new government policy objective was the broadening of ownership of industry by requiring corporations to sell stock to the public. Also, because of a concern over heavy dependence on short-term debt, a further policy objective was promoting the sale of long-term corporate bonds. The authorities thus wished to concentrate on encouraging firm underwritings and market making as well as providing additional resources to finance the purchase of new issues by investors - all with the intent of increasing the sale of new corporate securities to a wider range of investors.

The concern with developing firm underwritings as opposed to the previous practice of "best efforts" underwritings was the result of problems similar to those in Brazil - low prices on new issues which rose to immediate high premiums but benefitting mainly only the underwriting institutions.

Because of the Korean authorities' policy preferences for promoting the private sector, the entity is being established, as in Venezuela, as a corporation with a minority government interest (40%) and broad private sector participation (some 48% divided amongst some

50 financial institutions) and IFC (12%). Because of the practical advantages the aforementioned existing securities financing institutions give the market, the Korea Securities Finance Corporation (KSFC) is being reconstituted and expanded to carry out the new functions plus its existing functions, using the benefit of existing, trained staff and proven administrative procedures.

As the primary objective is promoting "firm" underwritings and as the existing business is providing working capital finance to brokers, the reconstituted KSFC will only make loans to securities market institutions, leaving the credit risk operations within such institutions. Thus, for market making, KSFC, unlike PROMECA, will only make loans for this purpose and not act as a market maker itself. While there has been little such activity in the past in Korea, the existing securities market institutions have the expertise to do this if given appropriate encouragement.

KSFC, as with PROMECA, will obtain its borrowing resources largely from its own shareholding institutions. However, unlike the Venezuelan case, there will not be a requirement that issuing corporations participate as shareholders and provide loans as a condition of having markets made in their issues.

Developed Countries

Countries such as the United States, Canada, the United Kingdom and France have financial markets which help to illustrate some important characteristics regarding securities market liquidity mechanisms. The key characteristics in these countries are summarized below.

United States

In general, investment banks and brokers carry out all types of securities market transactions including money market dealing and the handling of investor margin accounts. In consequence, investment banks and brokers require all of the types of working capital financing mentioned in Section B above.

The source of financing is primarily commercial banks. However, especially in the case of money market securities, some financing is provided by other types of financial institutions and also by large business corporations which have sophisticated cash management programs.

The procedures involve the pledging of securities as collateral and the promissory note of the borrowing entity. Based on a combination of Federal Reserve Board and SEC requirements, there is a highly sophisticated approach to the amount of borrowings which can be provided as a ratio of the market value of the securities financed in relation to their quality. This varies from practically 100% in the case of short-term U.S. Treasury bills to 50% in the case of some listed common stocks. Loans, as such, are usually described as "call loans" but it is generally understood that each securities firm has a reasonably constant line of credit on which it can draw from a broad list of borrowing banks.

Canada

What was said for the U.S. is basically applicable to the Canadian financial markets. In addition, it is important to mention that to promote a liquid market in government securities, rediscount

facilities are provided by the Bank of Canada to authorized dealers through the commercial banks. These, in turn, are assisted in this process by being permitted to consider both types of loans as part of their legal reserves. The rate of interest charged varies on a daily basis with supply and demand. The borrowers, because of the rapidly changing portfolio requirements of the lenders, have to switch from bank to bank on a fairly frequent basis. However, the above-mentioned definitions of such loans as part of commercial bank reserves means that there is always a relatively substantial pool of such funds available to the securities market institutions.

United Kingdom

The similarities with the United States and Canadian systems are substantial except for the following points:

Firstly, there is a legal division of activities between merchant banks (underwriters of securities and, in some cases, market makers); brokers (acting only as agents in the buying and selling of securities); and discount houses (dealing only in short-term securities). Secondly, there are no specific legal borrowing ratios with respect to any class of securities. Rather, the commercial banks make independent credit judgments with respect to individual borrowers. As a rule, this is based on the overall debt/equity ratio of the institution concerned. In practice, this results in a maximum borrowing ratio of approximately 95% even for short-term government paper.

France

The organization of financial markets in France differs in many respects from the anglo-saxon countries and requires much lower levels of external financing for institutions carrying out securities market transactions.

Because there is no legal division between commercial banks and investment banks, French banks are able to finance underwriting activities with their own resources.

Stockbrokers are prohibited by law from engaging in banking type activities. However, they are allowed to manage portfolios and to match orders from their customers by selling and buying for their own account, but this measure has not resulted in active market making by stockbrokers. Stockbrokers participate in the money market as a source of funds to the market.

The most active market in the Paris Stock Exchange is the "term market" equivalent in all respects to a forward foreign exchange market except that there is only one liquidation day per month. Participants in this market have to deposit an amount varying from 15% to 40% of the transaction amount according to the type of securities (bonds or shares) involved and the nature of the collateral (cash or other securities). In practice this arrangement is similar to investor margin accounts, except for the fact that the procedures eliminate the need for working capital finance as, indirectly, it is the existing investor who is financing the new investor. Banks provide short term advances against securities but are unwilling to finance a customer position per se.

.. Only the financial intermediaries are allowed to participate in the money market. The money market is gradually evolving from a situation where the Central Bank is the first source of liquidity through its rediscounting facilities, to the U.K.-type market where the Central Bank is the lender of last resort after money brokers and discount houses have channelled to borrowers the funds offered by savers who have surpluses.

VOP-RESEARCH
(RPO # 307)
COLE-ESCAP
COOP-RESEARCH

Mr. Larry E. Westphal

September 11, 1974

Helen Hughes *HM*

Terms of Reference

1. On or about September 18, 1974, you will proceed to Manila to attend the Council on Asian Manpower Studies (CAMS) Donors' meeting which is being held concurrently with the next Council meeting on September 21 and 22.
2. You will then visit university and research institutions, including the ECAFE Research Department, in Singapore and Thailand to discuss current and future research on industrial development and trade policy with particular reference to collaborative research with the Bank.
3. You will return on or about September 29, 1974.

cc: Mr. Helmers - East Asia & Pacific
Mr. Cheetham - "
Mr. Leiserson - Development Economics
Mr. King - "
Mr. Blobel - Bangkok, Thailand

OP-RESEARCH
(R.D.# 307)

CLL-ESCAP
CC-OP-RESEARCH

Mr. Larry E. Westphal

September 11, 1974

Helen Hughes *HGH*

Terms of Reference

1. On or about September 18, 1974, you will proceed to Manila to attend the Council on Asian Manpower Studies (CAMS) Donors' meeting which is being held concurrently with the next Council meeting on September 21 and 22.
2. You will then visit university and research institutions, including the ECARF Research Department, in Singapore and Thailand to discuss current and future research on industrial development and trade policy with particular reference to collaborative research with the Bank.
3. You will return on or about September 29, 1974.

cc: Mr. Helmers - East Asia & Pacific
 Mr. Chaetham - "
 Mr. Leiserson - Development Economics
 Mr. King - "
 Mr. Blobel - Bangkok, Thailand

*OP-RESEARCH
(PROF 320)*

OUTGOING WIRE

TO: GERAGHTY

DATE: SEPTEMBER 11, 1975

ESARES

CLASS OF

SERVICE: IT *ITT*

Ext. #3958

COUNTRY: SINGAPORE

TEXT:

Cable No.: SRS CONTRACT BEING PREPARED COVERING BASIC SURVEY THREE MONTHS FOLLOWUP AND BUSINESS IMPACT PER MYLET AUGUST 23 AND YOURS 29th STOP PROPOSE SCHEDULE PAYMENTS AS FOLLOWS FIRST \$81,200 ON RECEIPT OF CONFIRMED CONTRACT SECOND 7,800 ON COMPLETION FIRST STAGE BUSINESS IMPACT STUDY ABOUT MARCH 1975 THIRD 81,200 ON SATISFACTORY COMPLETION OF ALL BEFOREHAND SURVEY INCLUDING EDITED DATA AND TECHNICAL NOTES BY APRIL 1975 FOURTH 28,000 AT START OF FOLLOWUP SURVEY PRESUMABLY SEPTEMBER 1975 FIFTH 28,000 ON SATISFACTORY COMPLETION FOLLOWUP INCLUDING EDITED DATA AND TECHNICAL NOTES PRESUMABLY DECEMBER 1975 AND FINAL 8,400 ON COMPLETION SECOND STAGE BUSINESS IMPACT STUDY PRESUMABLY FEBRUARY 1976 STOP TIMING OF LAST THREE COMPONENTS SUBJECT TO CHANGE IF IMPLEMENTATION OF LICENSING SCHEME SIGNIFICANTLY DIFFERENT FROM JULY FIRST 1975 STOP PLEASE CONFIRM ACCEPTABILITY OF THIS SCHEDULE AND WE WILL PROCEED ASAP WITH CONTRACT.

REGARDS

HARRAL

NOT TO BE TRANSMITTED

AUTHORIZED BY: Clell G. Harral, Division Chief, Ext. 3958

NAME

DEPT. ~~Transportation & Urban Projects Department~~

SIGNATURE *[Signature]*
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE: *EPH* EPHolland:gbm

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

CLEARANCES AND COPY DISTRIBUTION:

cc: F.G. Stone, Personnel
E.P. Holland, Transport Research

For Use By Communications Section

Checked for Dispatch: *[Signature]*

INCOMING TELEX

OB-RESEARCH
(RPO#227)

RECEIVED

SEP 10 10 17 74

Distribution:

Mr. Jaycox

ROADRESEARCH CR

TELEX NO 848272

10.9.74

12.00

JC

(2) A. Trunch

D-654

H. U. B. C.

FOR: TRUNCH

QUERY ICL USERS MANUAL

DO NOT UNDERSTAND REQUEST

YOU ALREADY HAVE USERS MANUAL

PLEASE SPECIFY ANY DIFFICULTIES

ROBINSON

IRRL

ENGLAND

Q.P. Research

Len W.

INCOMING CABLE

RECEIVED

SEP 10 10 00 AM 1974
COMMUNICATIONS
SECTION

Distribution:

Agriculture & Rural Dev.

ZCZC 248423 RC019 PDHO229 RML7277 UXS742 PPD623X 1386

URVT HL GBLA 021

READING T 21 9 2135

Sept. 9, 1974

LT

DONALDSON INTBAFRAD

WASHINGTONDC

N
FLATTERED YOUR CONSIDERATION COURBOIS EXERCISE BUT ONE
PRD EVEN IN BUSH IS ENOUGH STOP MAILING COMMENTS

VONPISCHKE

COL LT

OP-RESERVE
(KPO 281)

KPO 281,

September 9, 1974

Mr. J. Natera SS
Director
Department of Agriculture
Stock & Fisheries
P.O. Box 2417
Konedobu
Papua, New Guinea

Dear Mr. Natera:

A copy of our earlier paper on prospects of the world cocoa market ("The World Cocoa Market - Review and Outlook for Bank Lending", R74-36, February 22, 1974) was sent to you some time ago. The attached paper on "Comparative Analysis of Cocoa Production in Selected Countries" attempts to assess the costs and benefits of cocoa production under plantation and peasant modes in seven countries. We are grateful to you for the assistance provided by your Department in connection with the preparation of this report.

The positive result of the study is the identification of a theoretical approach to a complicated problem. It illustrates a method which can be used to evaluate alternative investment projects within a country. What has not been obtained (and might not be achievable) is a set of clear-cut results that can be useful as guides to the Bank's investment policy toward cocoa.

We welcome whatever comments and suggestions you may wish to make regarding the attached study.

I have just received a copy of the Plantation Survey of Cocoa in Papua, New Guinea set by you. We will certainly examine this and send you whatever comments we may have.

With regards.

Sincerely yours,

Shamsher Singh
Chief

Commodities & Export Projections Division
Economic Analysis & Projections Department

SSingh/tl



INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

1818 H Street, N.W., Washington, D. C. 20433, U.S.A.

Area Code 202 • Telephone - Executive 3 6360 • Cable Address - INTBAFRAD

W.P. Agriculture
cc O.P. Commodities
cc O.P. Research
Yellow

September 9, 1974

TO ALL MEMBERS OF THE RESEARCH INSTITUTIONS DOCUMENTS EXCHANGE PROGRAM

In the past 18 months, the Commodities and Export Division of the World Bank has produced a number of papers concerning the market prospects for major commodities in international trade. Some of the papers, especially those which discuss the techniques used for projections, might be of interest to the researchers in your institution. As a part of our program to exchange documents of common interest, including those which are prepared primarily for internal use, I am sending the following Commodity Papers:

- No. 1 - Opportunities for OPEC-Type Action in Agricultural Commodities ✓
- No. 2 - The Outlook for Coffee ✓
- No. 3 - A Review of the World Tin Market: Problems and Prospects ✓
- No. 4 - The World Wool Market ✓
- No. 5 - Price and Volume Growth Forecasts 1974-80 and 1985 and Methodological Notes
- No. 10 - Technology Forecasting as a Tool for Commodity Projections: A Preliminary Case Study on the Effect of Substitution by Aluminum on Future Copper Demand ✓

Kindly acknowledge receipt.

Sincerely yours,

D. C. Rao

Secretary to the Research Committee

Enclosures

OP RESEARCH
(NO 281)

RPO 281

September 9, 1974

SS
Mr. Sunarjo
Senior Research Officer
Cocoa Research Station
Djember
Indonesia

Dear Mr. Sunarjo:

I attach a copy of our study on "Comparative Analysis of Cocoa Production in Selected Countries". We are grateful for the kind assistance given by you in preparing this report. The study is the second phase of the World Bank's assessment of the present and prospective market situation for cocoa: first, a paper was prepared on prospects of the world cocoa market ("The World Cocoa Market - Review and Outlook for Bank Lending," R74-36, February 22, 1974); a copy of which is also attached. The comparative analysis paper attempts to assess the costs and benefits of cocoa production under plantation and peasant modes in seven countries.

The positive result of the study is the identification of a theoretical approach to a complicated problem. It illustrates a method which can be used to evaluate alternative investment projects within a country. What has not been obtained (and might not be achievable) is a set of clear-cut results that can be useful as guides to the Bank's investment policy toward cocoa.

We welcome whatever comments and suggestions you may wish to make regarding the attached study.

With regards.

Sincerely yours,

Shamsker Singh
Chief
Commodities & Export Projections Division
Economic Analysis & Projections Department

*OP. RESERVA
(RPO #295)*

OUTGOING WIRE

TO: GERRY SICAT
UPECON
MANILA

DATE: SEPT. 9, 1974

CLASS OF
SERVICE: FULL RATE */MT*

EXT. 2431

COUNTRY: PHILIPPINES

TEXT:
Cable No.:

CAPITAL UTILIZATION STUDY RESULTS SUGGEST INTER COUNTRY ANALYSIS
WILL PROVE VERY USEFUL STOP WE THEREFORE HOPE BAUTISTA CAN ATTEND NEXT
WORKING SESSION IN WASHINGTON SEPT. 18 to 25 AT OUR EXPENSE REGARDS

HUGHES

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME Helen Hughes
Dy. Director
DEPT. Development Economics

SIGNATURE *Helen Hughes*

(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

CLEARANCES AND COPY DISTRIBUTION:

For Use By Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *Sc*

INTERNATIONAL DEVELOPMENT ASSOCIATION

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE CORPORATION

OUTGOING WIRE

TO: GERRY SICAT
UECON
MANILA

COUNTRY: PHILIPPINES

TEXT:
Cable No.:

DATE: SEPT. 9, 1974
CLASS OF SERVICE: FULL RATE
RXT. 2431

CAPITAL UTILIZATION STUDY RESULTS SUGGEST INTER COUNTRY ANALYSIS
WILL PROVE VERY USEFUL STOP WE THEREFORE HOPE BAUTISTA CAN ATTEMPT NEXT
WORKING SESSION IN WASHINGTON SEPT. 18 TO 22 AT OUR EXPENSE REGARDS

HUGHES

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME: Helen Hughes

DEPT: Development Economics

SIGNATURE: *[Handwritten Signature]*

REFERENCE:

ORIGINAL (File Copy)

(IMPORTANT: See Secretary's Guide for preparing form)

COMMUNICATIONS SECTION

SEP 9 10 01 PM 1974

DISPATCHED

CLEARANCES AND COPY DISTRIBUTION

For Use By Communications Section

Checked for Dispatch: *[Handwritten Mark]*

[Handwritten: 09. 12. 1974 (1974 12 09)]

O.P. Research
R.P.O # 308

OUTGOING WIRE

TO: M. Blobel
Resident Mission
Bangkok

DATE: 9/9/74

CLASS OF
SERVICE: TELEX

HW

COUNTRY: THAILAND

TEXT:
Cable No.: 446

WILL UNDERTAKE ANALYSIS THAILAND DATA IMMEDIATELY TAPES BECOME AVAILABLE
STOP TWO MONTHS ESTIMATE FOR FIRST ROUND OF OUTPUT ASSUMES TAPES CAN BE
READ WITHOUT PROBLEMS IN CASE DIFFICULTIES WILL VISIT BANGKOK TO CONSULT
STATISTICAL OFFICE STOP HAVE RECEIVED QUESTIONNAIRE FORM FROM RONALD NG
BUT NEED CODING INSTRUCTIONS AND CODING LIST TO TRANSLATE CODES ON TAPES
STOP CANNOT JUDGE RICHNESS OF DATA WITHOUT THIS INFORMATION STOP PLEASE
SEND ALONG WITH TAPES SOONEST POSSIBLE STOP REGARDS STOP

AHLUWALIA

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME Montek Ahluwalia (DRC, Acting Director)

DEPT. Development Research Center

SIGNATURE *Montek Ahluwalia*
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

CLEARANCES AND COPY DISTRIBUTION:

For Use By Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *ly*

(R 80 of 308)

INTERNATIONAL FINANCE CORPORATION

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

Form No. 11 (2-59)

OUTGOING WIRE

Handwritten mark

DATE 9/17/74

CLASS OF SERVICE
TELEX

TO: M. Blodel
Resident Mission
Bangkok

COUNTRY: THAILAND

TEXT: 446
Cable No.

WILL UNDERTAKE ANALYSIS THAILAND DATA IMMEDIATELY TAPES BECOME AVAILABLE
STOP TWO MONTHS ESTIMATE FOR FIRST ROUND OF OUTPUT ASSUMES TAPES CAN BE
READ WITHOUT PROBLEMS IN CASE DIFFICULTIES WILL VISIT BANGKOK TO CONSULT
STATISTICAL OFFICE STOP HAVE RECEIVED QUESTIONNAIRE FORM FROM RONALD NG
BUT NEED COPYING INSTRUCTIONS AND CODING LIST TO TRANSLATE CODES ON TAPES
STOP CANNOT JUDGE RICHNESS OF DATA WITHOUT THIS INFORMATION STOP PLEASE
SEND ALONG WITH TAPES SOONEST POSSIBLE STOP REGARDS STOP

ANLUWALIA

NOT TO BE TRANSMITTED

CLEARANCES AND COPY DISTRIBUTION

AUTHORIZED BY:

NAME: Montek Ahluwalia (DRC, Acting Director)

NAME

DEPT: Development Research Center

DEPT

Handwritten signature

SIGNATURE

(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE

For Use by Communications Section

ORIGINAL (File Copy)

IMPORTANT: See Secretaries-Guide for preparing form

Checked for Dispatch

Handwritten mark

DISPATCHED

SEP 10 11 38 AM 1974

*OP-RESEARCH
(CRPO P 295)*

OUTGOING WIRE

TO: ROMEO BAUTISTA
UPECON
MANILA

DATE: Sept. 9, 1974

CLASS OF
SERVICE: FULL RATE */ITT*

EXT. 2431

COUNTRY: PHILIPPINES

TEXT:
Cable No.:

EXTREMELY UNFORTUNATE YOU WERE UNABLE TO ATTEND THE CAPITAL UTILIZATION SEMINAR LAST WEEK STOP WE ARE SCHEDULING A FOLLOW UP SESSION FROM SEPT. 18 to 25 FOR YOUR PARTICIPATION WE HOPE THIS WILL BE CONVENIENT FOR YOU STOP ALL YOUR EXPENSES INCLUDING TRANSPORTATION, FOOD AND LODGING WILL BE PAID

HELEN HUGHES

NOT TO BE TRANSMITTED

AUTHORIZED BY: Helen Hughes

NAME

DEPT. Dy. Director
Development Economics

SIGNATURE *Helen Hughes*
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

CLEARANCES AND COPY DISTRIBUTION:

For Use By Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *SC*

INTERNATIONAL DEVELOPMENT
ASSOCIATION

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE
CORPORATION

OUTGOING WIRE

TO: ROMEO BAUTISTA
URION
MANILA
COUNTRY: PHILIPPINES
TEXT:
Cable No.:

DATE: Sept. 9, 1974
CLASS OF SERVICE:
FULL RATE
EXT. 2431

WILL BE PAID
YOU STOP ALL YOUR EXPENSES INCLUDING TRANSPORTATION, FOOD AND LODGING
IS TO 25 FOR YOUR PARTICIPATION WE HOPE THIS WILL BE CONVENIENT FOR
SEMINAR LAST WEEK STOP WE ARE SCHEDULING A FOLLOW UP SESSION FROM SEPT.
EXTREMELY UNFORTUNATE YOU WERE UNABLE TO ATTEND THE CAPITAL UTILIZATION

HELEN HUGHES

NOT TO BE TRANSMITTED

AUTHORIZED BY: Helen Hughes
NAME:
DEPT: Development Economics
SIGNATURE: [Signature]
REFERENCE: SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE

Dy. Director
Development Economics
[Signature]

COMMUNICATIONS SECTION
SEP 9 10 04 PM 1974

CLEARANCES AND COPY DISTRIBUTION

DISPATCHED FOR USE BY COMMUNICATIONS SECTION

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch

CC: W.H.O.

CC: OP- POPULATION & NUTRITION

CC: OP- RESEARCH

Dr. F. I. Lia, PNP

September 9, 1974

K. Kanagaratnam, Director, PNP *Y. Dab*

Visit to WHO Regarding the Research Work on Statistical Studies on the Relationship of Family Planning to Maternal and Child Health - Terms of Reference

1. You will visit WHO in Geneva on September 16, 1974, for about five days to discuss the sponsoring of research on the relationship between family planning and health status of mothers and children. You will meet with Dr. Albert Kohn, Director, Division of Family Health, WHO and his staff - Dr. Petros-Barvasian, Dr. L. Mehra, Dr. A. Kesalar, Mrs. G. Standley, Dr. L. Engstrom and others.
2. In the discussion, you should concentrate on the following matters in particular:
 - a. The results from six countries of the studies on different patterns of family formation and their effects on health;
 - b. A plan to test more detailed hypothesis derived from the results of the above studies;
 - c. The idea of publishing a booklet containing the analysis of the interrelationship between health and population trend in simple language supported by appropriate diagram/figures. Such a booklet would be addressed to policy-makers and program workers to educate them;
 - d. Projection of financial assistance needed for these works once the scope and time are determined.
3. During the visit, you will also try to learn about WHO's plan to carry out a Health Manpower Study in Thailand for the benefit of the Bank's population sector review scheduled in November-December this year. On your return, you will submit a back-to-office report.

Cleared with and cc: Mr. Zeiden, PNP
 cc: Messrs. Paldain, PNP
 Brava, Infor. & Public Affairs
 Chetany, Intl. Relations
 Rang, PNP
 Mrs. Santiago, PNP
 Div. Files

Tel: 208
 Conference/PPF

OP-RESEARCH

Mr. D. C. Rao F1233

September 9, 1974

A. C. Egbert

Takayama Research Proposal for World Agricultural Commodity Model

This is a very ambitious project, and it will take considerable skill and resources to achieve the objectives even if they are possible. The author is very likely more optimistic about the final result than experience warrants--i.e., "We propose to complete both short-run and long-run world trade models to project and evaluate the trends and policies in agricultural commodity supply, demand, trade, and food reserves for each and all countries involved in international trade."

The case study for wheat presented in the project outline is very elementary compared with the overall objectives of the total study, including supply and demand functions for five of the sixteen countries or regions studied. None of the supply functions are presented. Of the other eleven countries or regions, only for Russia are we told how production and consumption is projected over the analysis period to 1980.

These types of models need to be tested or validated over a period of more than one year, as was done in the wheat example. Beginning in 1964 there were plenty of dynamics in the world wheat market to give a world wheat model a good validation or test. The wheat model presented, however, is too simplified to be useful. The author is apparently over-optimistic in his expectations for computer cost in Stage 2 of the project if that is found to be necessary.

Computer cost for somewhat similar problems which were done here in the Bank increased geometrically when the size exceeded one thousand rows, rising from \$200 for one thousand row problems to over \$20,000 for a 2500 row problem.

It will be necessary to go into Stage 2 for livestock-feed trade at least.

While the project objective is to deal with all commodities in world trade, the actual project specifications are rather loose and indefinite. There is no specification of the specific commodities to be analyzed, the policy alternatives to be tested, or the time period for which the model(s) would be run.

Before the Bank considers supporting this project, it should be ascertained if there is any duplication of the work presently going on or planned in the USDA and other agencies, such as the World Food Policy Research Institute, and how it could complement the work of the Commodity and Export Projects Division, EAD. I tried to contact Mr. Rojko of the USDA, who has been doing some work with a world grain trade model, but was not successful.

If the Bank is to support this project, it probably should be for Stage 1 only and only under the provision that a complete scenario--commodities analyzed, policies evaluated, and time span covered--is provided in advance. Furthermore, it should be agreed that the model(s) be at least verified against data of the last ten years.

ACE:tel
cc and cleared with: GDarnell

OP-RESEARCH
RPO 276

September 6, 1974

Mr. Marco V. Tristan
Director
Escuela de Ciencias Economicas y
Sociales
Instituto de Investigaciones
Costa Rica

Dear Marco:

We have received your questionnaire and will be responding to you in the next few days.

On the question of the invoice this has been received and is currently being processed. This is all that is needed at present.

I have also forwarded a copy the "Trout Fishing" paper to you by previous mail and I hope you find this helpful.

Sincerely yours,

Morton Lane

ML
MLane:pjk

cc: Mr. Warford

Mr. Douglas H. Keare, Chief, Urban and
Regional Economics, Develop. Economics Depart.
Edward P. Holland and Peter L. Watson, Transp. Research Div.,
Transportation & Urban Proj. Depart.
Household Surveys for Singapore Traffic Restraint Study.

September 6, 1974

1. With reference to your memorandum of August 15th, and to Carroll Long's comments on the SRS proposal for their portion of our Traffic Restraint Study in Singapore, we apologize for not having called your attention to the relevance of our Research Proposal of June 28, 1974 and the Notes on the Workshop on Researching the Effects of Urban Traffic Restraint Measures, of April 18, 1974 when we sent you the SRS proposal. As the objectives of the work proposed by SRS are only a small part of our overall objectives, the full background was needed to put the proposal in its proper context. Another look at those papers would have gone a long way toward answering your questions about objectives and anticipated "reactions to the treatment". They also include some relevant discussion of the sampling strategy. Nevertheless, we found many of the comments pertinent and useful, and would like to express our appreciation for their constructive content as well as for the prompt response to our short-notice request.

2. Following our latest round of discussions with our transport study expert, Bruno Wildermuth, (who will be our key man in Singapore), and with Carroll Long, Peter Watson has written the attached memoranda dated August 21 and August 23, the latter including a portion of his August 13 memo. These memoranda deal, respectively, with the question of sample size and with the objectives and approach of the research study. There can be no disagreement with your conclusion that sample design can only be carried out against a background of the objectives of the study. The sample was designed in the light of the broader research and model development objectives of the study, in addition to the more limited evaluation objectives. As far as the SRS proposal is concerned, their objective is simply to collect the data and produce it in a clean form. Except for a few simple tabulations, the analysis of the data will be carried out by the Bank and by other consultants.

3. Let us now respond to specific points in Carroll Long's memorandum.

4. Household interviews (para 3)

In this study we have dual objectives: to develop an evaluation methodology and to conduct basic research on travel behavior. The latter objective is more stringent in its data requirements. It has, therefore, determined the data collection strategy. Respondents may be contacted in three primary ways:

- a) at work - this simplifies the derivation of the sample frame. It only contacts the employee, however, and he/she cannot be expected to reconstruct trips for the rest of the household.
- b) in transit - this enables us to examine only the behavior of travelers. In our research we shall examine the travel behavior of different types of household. Thus we also require data on households which make few trips. In addition, we require data on all trip-makers. This would involve a follow-up household interview as well as the roadside interview, which would add to the cost.
- c) at home - this method enables us to obtain data on all members of the household, on households with different travel patterns, and on the characteristics of the household. The household sample, therefore, is the most suitable approach for establishing the model development data base. It is augmented by a supplementary sample of households containing CBD-bound vehicles to ensure that it also meets the evaluation data requirements. Finally, a household survey is much easier from both the logistic and administrative points of view.

Minor Points

- a) children over five years of age are included because school trips are an extremely important component of rush-hour traffic. Data on trips made by small children are obtained from an adult.
- b) respondents are not expected to recall the last week's trips, even for themselves. The interview covers trips made the previous 24 hours. This should have been stated explicitly in the proposal, but was not.

5.

Sample of Non-Vehicle Households (para 4)

The wording of para 21, iii, in the proposal is imprecise. It is not intended to sample in only one area. The non-vehicle households will be randomly selected from the master sample frame maintained by S.R.S.

6.

Points of Clarification (para 5)

a) The basis for the household size assumptions is not specified; it is presumed to be based on previous SRS work on vehicle ownership. As it is only used to calculate the approximate number of adult respondents, it is not of vital importance.

b) S.R.S will provide a data set which has been edited and cross-checked. They will also provide fieldwork summaries and tabulations on certain key variables, eg. age, sex, household size, income, so that checks may be made

against census data. They are not responsible for any further analysis of the data.

c) All household informants will be adults.

d) Our interpretation of para. 29 is that they started with the requirement of 1500 multiple car households. They then allowed for a wastage of 300 names, yielding a requirement of 1800 multiple household names. Using previously derived proportions (cf para 28), this implies a vehicle ownership list of approximately 5100 names.

7. Finally, let us say that the comments prepared by Carrol Long were most stimulating and obliged us to clarify our thinking on several issues. Watson has discussed the above points with Carrol Long and will do so with Remi Clignet on his forthcoming visit, and we believe the above statement will satisfactorily resolve the problem issues of objectives, sample size and survey method.

EPHolland/PLWatson:mcp

cc. Mr. Harral
Ms. Long

September 6, 1974

TO: Mr. Duloy

SUBJECT: Application of Research Results

Some unsolicited comments on your memorandum to Chenery of August 16. It is obviously necessary and desirable that the DRC play an active role in carrying research activities to the point where they can be applied by operational departments in the Bank. However,

- (1) How about an EDI course on planning models - agriculture sector and economy-wide multi-level? We could invite the practioners from the various countries that have requested your assistance in applying the CHAC models (Items 2, 4, 6, 7 and 8 of the request to the Development Planning Division).
- (2) Of the requests to the Special Topics Division, Items 9, 11, 12, 13 and 14 seem to come very close to routine operational work. At some time, we would have to bring RPO 224 to a close and insist that Industrial Projects Department hires suitably qualified people who can apply the programming methodologies that have been developed in the DRC.
- (3) Item 7 of the Special Topics Division is (to the best of my knowledge, which is obviously incomplete in these areas) a part of a research project (RPO 208) in this year.
- (4) Item 5 of the Development Planning Division could have been a part of RPO 208 if it were felt that the request was intrinsically good.
- (5) A general point: There is obviously a shortage of qualified people to do routine tasks in the Bank. To the extent that the DRC has extraordinary men, it is not surprising that you will have a number of requests for work from operational departments. I am sure you will agree that one has to keep a wary eye to distinguish between applications of re research and direct support for other departments in the Bank. This comment would apply, to some extent, to Item 1 of the Development Planning Division request and Items 1-5 of the Special Topics Division requests.

DCR

D. C. Rao

LE-UNIDO/2010 CSU/PROGRAM
VCC. OP. RESEARCH

UNITED NATIONS  NATIONS UNIES
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

LERCHENFELDER STRASSE 1. A-1070 VIENNA, AUSTRIA
P.O. BOX 707, A-1011
TELEPHONE: 43 500 TELEGRAPHIC ADDRESS: UNIDO TELEX: 75612

REFERENCE:

5 September 1974

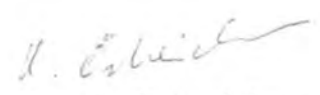
Subject: Bank Group Research Program

Dear Mr. Kalmanoff,

We have been asked by the Chemicals, Pharmaceuticals, Pulp and Paper and Building Materials Industries Section whether the Bank was engaged in research in the field of pulp and paper, particularly as far as kenaf as a raw material for the production of pulp and paper was concerned. While we have not been able to find any such activity in the President's Memorandum dated November 12, 1973 entitled "Bank Group Research Program", you might be able to give us some more recent information on the subject. We have also been asked whether there would be funds available for research in the field of pulp and paper in developing countries, and we hope that you can enlighten us on the matter.

Looking forward to your kind reply, I am

Yours sincerely,



Rosemarie Ostreicher
Research Assistant
IBRD/UNIDO Co-operative Programme

Mr. G. Kalmanoff
Deputy Director
Industrial Projects Department
International Bank for
Reconstruction and Development
1818 H Street, N.W.
Washington, D.C. 20433
U.S.A.

INTERNATIONAL COCOA ORGANIZATION

ICCO

✓ DMAP-CP-RESEARCH (10/10/74)
cc Ivory Coast - Cocoa (2)
22 Berners Street
London, W1P 3DB

Tel. 01-637 3211
Cables: WORLDCOcoa London-W1

5 September, 1974

Our Ref.

Your Ref.

ALL CORRESPONDENCE TO BE ADDRESSED TO THE EXECUTIVE DIRECTOR

Dear Mr. Singh,

Thank you for your letter of 14 August 1974 enclosing a summary description of the Second Cocoa Project for Ivory Coast. The International Cocoa Organization is trying to monitor new planting, replanting and rehabilitation programmes so as to be in a position to assess changes in productive capacity in producing Member countries of the Organization and I very much appreciate information on both approved and proposed World Bank projects.

In a situation where cocoa is in relatively short supply in the world markets, forcing a decline in grindings, measures which will increase production in the short run should be encouraged. Therefore, the projects supported by World Bank which involve rehabilitation, as contrasted with projects for planting and replanting, are of considerable importance to us in the present market situation. With regard to planting and replanting, more care must be taken as it is necessary to guard against an over-reaction to the high prices prevailing at present. Such an over-reaction did occur in the late 1950's with resultant very low prices in the mid-1960's. We do not believe that this stage has been reached as yet, and as a result, would support the Ivory Coast Second Cocoa Project. However, we would wish to maintain surveillance over the rate of plantings on this and other projects.

At the moment the Secretariat is outlining for consideration by the Executive Committee of the Organization a project to study changes in productive and consumption capacity in the cocoa industry. We hope that you will be able to assist by providing us with the necessary information relating to the World Bank assisted projects. We would like to obtain information as follows on both approved and proposed projects:

Chief
Commodities and Export Projections Division
Economic Analysis and Projections Department
International Bank for Reconstruction and Development
1818 H. Street, N.W.
Washington, D.C. 20433
U.S.A.

- (1) Planned schedule of rehabilitation, replanting and planting, i.e. dates and sizes (in acres or hectares);
- (2) Yield assumptions;
- (3) Actual progress on implementation of projects.

I look forward to continued "consultative liason" with the Bank on these and other matters relating to cocoa as envisaged in the Bank report "The World Cocoa Market - Review and Outlook for Bank Lending", which you forwarded to us in earlier correspondence.

Yours sincerely,


U.K. Hackman
Executive Director

OP-RESEARCH

September 5, 1974

Prof. George Wilson
Indiana University
104 Kirkwood Hall
Bloomington, Indiana 47401

Dear Professor Wilson:

We are planning an \$8 million research project on the inter-relationships between highway construction standards, maintenance policies and vehicle operating costs in Brazil. We expect to start the project in early 1975. An outline of the proposed plan is attached. *NOT ATTACHED*

The quantification of road vehicle operating costs as a function of road design and condition is a major aspect of the plan. We expect to explore this problem by two approaches: 1) survey of transporters and 2) experimental testing of vehicles for speed and fuel consumption.

We are familiar with your general interest in the subject of vehicle costing and would appreciate any comments you might have on this aspect of the study. In addition we are interested in obtaining names of individuals who would like to take a three-year assignment in Brazil to work on the Study. Job descriptions of the foreign personnel needed are given on pages 18-20 of the project plan.

We do expect to have approval of the project financing by October 1st and will start active selection of personnel at that time. Therefore we would appreciate the names of any individuals you might suggest by early October.

Thank you for your consideration of this matter.

Very truly yours,

Leon H. Miller
Senior Economist
Transport Research Division
Transportation and Urban Projects Department

Attachment

LHMiller:mcp

OP-RESEARCH

September 5, 1974

Mr. Jim Havens
Director of Research
Kentucky Bureau of Highways
Dept. of Transportation
533 S. Limestone
Lexington, Kentucky 40508

Dear Mr. Havens:

We are planning an \$8 million research project on the inter-relationships between highway construction standards, maintenance policies and vehicle operating costs in Brazil. We expect to start the project in early 1975. An outline of the proposed plan is attached.

NOT ATTACHED

Mr. Bob Baker has given me your name as an individual who is interested in the general area of empirical research of this nature. Therefore, we would appreciate your comments on the study plan. In addition we are interested in obtaining names of individuals who would like to take a three-year assignment in Brazil to work on the Study. Job descriptions of the foreign personnel needed are given on pages 18-20 of the project plan.

We do expect to have approval of the project financing by October 1st and will start active selection of personnel at that time. Therefore we would appreciate the names of any individuals you might suggest by early October.

Thank you for your consideration of this matter.

Very truly yours,

Leon H. Miller
Senior Economist
Transport Research Division
Transportation and Urban Projects Department

Attachment

LHMiller:mcp

ON-RESEARCH

September 5, 1974

Prof. John Kohl
110 E. 2nd Street
Moorestown, New Jersey 08057

Dear Professor Kohl:

We are planning an \$8 million research project on the inter-relationships between highway construction standards, maintenance policies and vehicle operating costs in Brazil. We expect to start the project in early 1975. An outline of the proposed plan is attached. *NOT ATTACHED*

Mr. Bob Baker has given me your name as an individual who is interested in the general area of empirical research of this nature. Therefore, we would appreciate your comments on the study plan. In addition we are interested in obtaining names of individuals who would like to take a three-year assignment in Brazil to work on the Study. Job descriptions of the foreign personnel needed are given on pages 18-20 of the project plan.

We do expect to have approval of the project financing by October 1st and will start active selection of personnel at that time. Therefore we would appreciate the names of any individuals you might suggest by early October.

Thank you for your consideration of this matter.

Very truly yours,

Leon H. Miller
Senior Economist
Transport Research Division
Transportation and Urban Projects Department

Attachment

LHMiller:mcp

LETTER FOUNDATION
W. D. ROCKEFELLER FOUNDATION
W. C. A. D.
U. O. A. RESEARCH

September 4, 1974

Letter sent to:

Mr. Francis X. Sutton, Ford Foundation
Mr. Ralph Davidson, Rockefeller Foundation
Mr. Robert Muscat, USAID

May I remind you of my letter of July 31.
So far I have received a reply only from IDRC. We
would be grateful, especially for the lists of
research projects referred to in the letter.

Sincerely yours,

Benjamin B. King
Research Adviser
Development Policy

P.S. (Muscat's copy)

I do not believe we have a list of AID assignments to the
four subjects, such as the other organizations have
circulated. Do you have one yet?

BBKing:gm

*ON RESEARCH
(RPO 287)*

OUTGOING WIRE

TO: WYSS/GUSTEN
IBRD
ABIDJAN

DATE: SEPTEMBER 4, 1974
5621

CLASS OF SERVICE: TELEX

COUNTRY: IVORY COAST

TEXT: RECEIVED YOUR TELEX TODAY ON RETURN TO WASHINGTON. TRANSPORT COST INFORMATION
Cable No.:

REQUESTED ON FOLLOWING PRIMARY COMMODITIES AND COUNTRIES. COFFEE: GHANA, IVORYCOAST; COCOA: GHANA, IVORYCOAST; GRAINS: GHANA, IVORYCOAST, MALI, SENEGAL; MANIOC: GHANA, IVORYCOAST; RUBBER, LATEX: GHANA, IVORYCOAST; PINEAPPLE: GHANA, IVORYCOAST; BANANAS: GHANA, IVORYCOAST; OTHER FRESHFRUITS AND VEGETABLES (MANGOES, GREEN PEPPERS): MALI, SENEGAL; LOGS: GHANA, IVORYCOAST; SAWNWOOD: GHANA, IVORYCOAST; VENEER, PLYWOOD: GHANA, IVORYCOAST; COTTON: GHANA, IVORYCOAST, MALI, SENEGAL; COTTONSEED: GHANA, IVORYCOAST, MALI, SENEGAL; OTHER OILSEEDS (PALMNUT KERNELS, COPRA, GROUNDNUTS): GHANA, IVORYCOAST, MALI, SENEGAL; VEGETABLE OILS: GHANA, IVORYCOAST, MALI, SENEGAL; FISH: GHANA, IVORYCOAST, MALI, SENEGAL.

IN ADDITION, PER TON FIGURES ARE NEEDED FOR MANUFACTURED GOODS IN GENERAL OR FOR ~~THE~~ BROAD GROUPS OF MANUFACTURES. MEMO BEING SENT TODAY. REGARDS.

BALASSA

Economic
"Industrial Policies & Integration in West Africa"
RPO 287

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME: Bela Balassa
DEPT.: Development Research Center

SIGNATURE: *[Signature]*
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE: BBalassa:alm

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

CLEARANCES AND COPY DISTRIBUTION:
cc. Messrs. de Vries
Pursell
Brandreth

For Use By Communications Section

Checked for Dispatch: _____

ORIGINAL (1st Copy)

REFERENCE: [Signature]
 SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE: [Signature]
 DATE: SEP 4 9 32 PM 1974
 NAME: [Signature]
 AUTHORIZED BY: [Signature]

[Signature]
 DIRECTOR
 SUBJECT
 CC: MEMBERS OF AGENCIES
 STEWARDSHIP AND COPY DISTRIBUTION

NOT TO BE TRANSMITTED

"Industrial Policy & Economic Development in West Africa" 860.581
 [Signature]

FOR THE BROAD GROUPS OF INDUSTRIES, WHOSE BEING WILL BEING RECEIVED
 IN ADDITION, THE LOW PRICES ARE NEEDED FOR INDUSTRIAL GOODS IN SERVICE OF
 THE SERVICE
 ABSOLUTE OILS: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL, KNOWLEDGE
 (ENVIRONMENTAL KNOWLEDGE, SOCIAL, SECURITY): ENERGY, LABOR, CAPITAL, MANPOWER, SKILL
 MANPOWER, SKILL, COLLECTIVE: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL, OTHER ORGANIZATIONS
 ENERGY, LABOR, CAPITAL, MANPOWER, SKILL, COLLECTIVE: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL
 (MANPOWER, SKILL BELIEFS): MANPOWER, SKILL, FORCE: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL
 LABOR, CAPITAL, MANPOWER, SKILL: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL, BELIEFS AND ORGANIZATIONS
 MANPOWER, SKILL: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL, BELIEFS: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL
 LABOR, CAPITAL, MANPOWER, SKILL, COLLECTIVE: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL, SERVICE
 BELIEFS ON INDUSTRIAL BELIEFS, COMMODITIES AND SERVICES, COLLECTIVE: ENERGY, LABOR, CAPITAL, MANPOWER, SKILL
 RECEIVED LONG-TERM POLICY ON BELIEFS TO MANPOWER, BELIEFS, COLLECTIVE, MANPOWER, SKILL
 COLLECTIVE: LABOR, CAPITAL

Copy No:
 TEXT:
 COMMENTS:

UNITED STATES
 LIBRARY
 TO: MASSACHUSETTS

SERVICE CLASS OF DATE
 LIBRARY
 251
 SEPTEMBER 4, 1974

ONGOING WORK

ASSOCIATION INTERNATIONAL DEVELOPMENT (10-10) 1974-1975	RECONSTRUCTION AND DEVELOPMENT INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT	CORPORATION INTERNATIONAL FINANCE CORPORATION
------------------------------------------------------------------	--------------------------------------------------------------------------------------------	-----------------------------------------------------

[Handwritten signature]

OP. RESEARCH

September 4, 1974

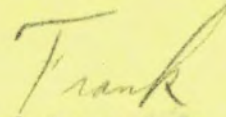
Mr. T. J. Bredero
Department of Agricultural Research
Royal Tropical Institute
Amsterdam

Dear Tom:

Thank you for your letter of August 21, 1974. We are still trying to get the grain research project off the ground and have some hopes but as yet I can promise nothing. If something does develop I will be in touch with you.

Thank you so much for keeping us in mind and I regret that I cannot give you a more optimistic report.

Sincerely yours,



Frank Lowenstein
Senior Agricultural Economist

FLowenstein:sam

OP-RESEARCH
(PRO # 320)

Mr. Benjamin B. King, Development Policy Dept.

September 4, 1974

Harold B. Dunkerley, ^ATransportation CPS

UNEP Contribution to Singapore Traffic Restraint Study

^{✓ - NOT RETURNED}
The attached copy of a letter from UNEP is self-explanatory. The amount of US\$55,800 which the UNEP will contribute represents the estimated shortfall for FY 1975. No mention is made of the US\$50,000 which is estimated will be necessary to complete the research in FY 1976. I also attach a copy of Mr. Harral's letter acknowledging the contribution from the UNEP and a promise to send the draft project document early in September.

HBDunkerley:go

*OP - RESEARCH
(RPO 280)*

OUTGOING WIRE

TO: Prof. William Thiesenhusen
Director, Land Tenure Center
University of Wisconsin
Madison, Wisconsin

DATE: September 3, 1974

CLASS OF SERVICE: LT
X39116

WU

COUNTRY: USA

TEXT:
Cable No.:

REGRET YOUR REPLY OF 8/27 TO OUR INQUIRY ON THE BOLIVIAN LAND REFORM REPORT DATED 7/26 IS UNSATISFACTORY stop REPEAT OUR INTEREST IS TO OBTAIN COHERENT SUMMARY ESSAY ON BOLIVIAN REFORM PROCESS BASED ON LARGE QUANTITY OF AVAILABLE MATERIAL EVEN IF QUANTITATIVE DATA IS PARTIAL AND ONLY ILLUSTRATIVE stop AT THIS LATE STAGE NEARLY 15 MONTHS AFTER SIGNATURE OF CONTRACT YOUR PROMISE OF DELIVERY OF 2 OR 3 CASE STUDIES PLUS DATA ON PRE-REFORM LAND TENURE IS UNACCEPTABLE stop AS WE HAVE REPEATEDLY POINTED OUT TO MR DORSEY THE UNDP MATERIAL YOU ARE WAITING FOR IS NOT DIRECTLY RELEVANT TO LAND REFORM AND NOT ESSENTIAL TO THE REPORT stop PLEASE REVIEW THE SITUATION CAREFULLY IN LIGHT OF OUR MEMO OF 7/26 AND LET US KNOW WHAT THE LAND TENURE CENTER PROPOSES TO DO ABOUT THE OVERDUE REPORT

SINCERELY,

S. Reutlinger

NOT TO BE TRANSMITTED

AUTHORIZED BY: S. Reutlinger

NAME S. Reutlinger

DEPT. Dev. Economics

SIGNATURE *[Signature]*
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE: *RPO 280*

CLEARANCES AND COPY DISTRIBUTION:

For Use By Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *[Signature]*

OUTGOING WIRE

TO: Prof. William Thiesenhausen
Director, Land Tenure Center
University of Wisconsin
Madison, Wisconsin

DATE: September 3, 1974

CLASS OF SERVICE: LT
LIPEX

COUNTRY: USA

TEXT: Cable No.

REGRET YOUR REPLY OF 8/27 TO OUR INQUIRY ON THE BOLIVIAN LAND REFORM
REPORT DATED 7/26 IS UNSATISFACTORY STOP REPEAT OUR INTEREST IS TO
OBTAIN CONCISE SUMMARY ESSAY ON BOLIVIAN REFORM PROCESS BASED ON LARGE
QUANTITY OF AVAILABLE MATERIAL EVEN IF QUANTITATIVE DATA IS PARTIAL
AND ONLY ILLUSTRATIVE STOP AT THIS LATE STAGE NEARLY 12 MONTHS AFTER
SIGNATURE OF CONTRACT YOUR PROMISE OF DELIVERY OF 2 OR 3 CASE STUDIES
PLUS DATA ON PRE-REFORM LAND TENURE IS UNACCEPTABLE STOP AS WE HAVE
REPEATEDLY POINTED OUT TO MR DORSEY THE UNDP MATERIAL YOU ARE WAITING
FOR IS NOT DIRECTLY RELEVANT TO LAND REFORM AND NOT ESSENTIAL TO THE
REPORT STOP PLEASE REVIEW THE SITUATION CAREFULLY IN LIGHT OF OUR MEMO
OF 7/26 AND LET US KNOW WHAT THE LAND TENURE CENTER PROPOSES TO DO
ABOUT THE OVERDUE REPORT

SINCERELY,
S. Resnikoff

NOT TO BE TRANSMITTED

<p>CLEARANCES AND COPY DISTRIBUTION</p> <p>For Use By Communications Section</p>	<p>AUTHORIZED BY: S. Resnikoff</p> <p>NAME: S. Resnikoff</p> <p>DEPT: Dev. Economics</p> <p>SIGNATURE: <i>[Signature]</i></p> <p>REFERENCE: R 90-280</p> <p>COMMUNICATIONS</p> <p>SEP 3 9 29 PM 1974</p> <p>ORIGINAL (File Copy)</p> <p>(IMPORTANT) See Secretariat Guide for preparing form</p>
----------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

OP-RESEARCH
(RPO # 306)

Mr. Raj Krishna, ECDDR

September 3, 1974

D. C. Rao, VPD *DR*

RPO 306

I return herewith your "Request for Consultant" memorandum. This is authorized by the Department Director and not by me.

As we discussed, regarding your memorandum of August 19, I await the revised budget estimates scaling down the budget from \$49,520 to \$40,000 in FY75.

Attachment

DCRao:gm

RECEIVED

INCOMING CABLE

OP-RESEARCH
(RPO # 279)

SEP 3
REC'D

1974 AUG 31 PM 2:34

COMMUNICATIONS
SECTION

Distribution: Mr. Bell
Mr. Votaw
Mr. Kirmani

Mr. Hasan

440098 IBRD UI

ITT 10 31 AUGUST 1974 VIA ITT WORLD COMMUNICATIONS K

ZCZC AWA599 VIA ITT JMB383 PTH251 LJA12

UIWA HL JPTH 033

TOKYO 33 31 1835

Aug 31 1974

Hasan
6/11

LT

MR BERNARD BELL

C/O INTBAFRAD

WASHINGTONDC

HAVE SHIPPED 3 COPIES OF DRAFT FINAL REPORT OF BANK RESEARCH
PROJECT STOP LOOKING FORWARD TO SEEING YOU ON SEPT 3
IN TOKYO STOP OKITA IDCJ

SP. Research

OFFICE MEMORANDUM

TO: Files

DATE: August 29, 1974

FROM: B. B. King, VPD *BBK*SUBJECT: CODESRIA

A very frank speech was given by the Chairman of the Board of Management of CODESRIA, Mr. Jacques Kazadi N'Duba. He said that CODESRIA had been going for 17 months. Its principal aim was to promote coordination. There were four working groups; two, on population and on economic integration had met in Lomé. A third on rural development had met in Dar es Salaam. The fourth on least developed and mainly landlocked countries had not apparently got going. There had been no follow-up to the meetings.

CODESRIA is housed with the African Institute for Economic Development and Planning (IEDP). It also shares a director (Samir Amin). This means that the distinction between the two institutions is not very clear. In fact, CODESRIA is not very well known in Africa. Kazadi mentioned by name prominent officials who had never heard of CODESRIA.

He acknowledged the support of IDRC and Rockefeller. But he said that the support from the African countries themselves was poor. Only four had paid their subscriptions. The others did not pay and a lot of them did not even reply. National research institutions had limited objectives and had no outlook outside their own country.

There was also, in effect, competition from other organizations. He mentioned the Organization for African Unity (OAU), a UN council (not clear what this is). He also referred to the intention of UNESCO to set up a sub-regional center. He questioned whether CODESRIA should be organized on a continental or on a regional basis.

The Social Science Representative of IDRC in Dakar, Hubert Leblanc, said that IDRC had put a considerable amount of money into CODESRIA, more or less as an act of faith. They were very dissatisfied with its progress so far. The problem was not lack of money. It was apparently, in the first instance, the unfortunate linkage with IEDP, since the director of that institution did not pay much attention to CODESRIA. It was, of course, up to the Board of CODESRIA to move it out of Dakar and to find another director. But, despite a certain amount of urging, they were very slow to move in this respect.

cc: Messrs. D. C. Rao
P. Smith

INCOMING TELETYPE

OP-RESEARCH
(APO # 315)

AUGUST 29, 1974

TO IERD WASHINGTON DC
FROM IERD DJAKARTA

Aug 29 11 04 AM

SECTION

Distribution

Mr. Herral
Mr. Jaycox
Mr. Sandberg

1202 HARRAL

REFERRING PREVIOUS CABLE AND DISCUSSION WITH PROF. DRADJAT WE
SUGGEST TO INITIATE STUDY PROTOCOL WITH SOEKIRMAN NOW AT
CORWELL. HE IS AVAILABLE FIRST OR SECOND WEEK SEPTEMBER BEFORE
LEAVING USA FOR STUDY TOUR. PLEASE CONTACT HIM. MAY BE OK IF BANK
PROVIDES FUNDS DURING HIS ACTIVITY WITH IERD IN WASHINGTON.

REGARDS

DARWIN KARYADI

OPERATIONAL

Mr. Shamsheer Singh

August 29, 1974

Patrick Yeung

Takayama Research Proposal for Agriculture Commodity Model

1. Per your request, my comments on Takayama's proposal are given below:

2. The proposed approach for making projections is one which utilizes programming techniques, that is, it solves for optimal solutions satisfying certain objective functions. The end-products are "projections" given certain assumptions, but not "forecasts" in the sense of what is most likely to happen in real world situations. Takayama's approach starts with a perfectly competitive market framework, with market distortions and special institutional assumptions subsequently added to give alternative results for comparison; the Bank's approach, on the other hand, appears to begin with real world situations, then changing economic and institutional parameters whenever desired to examine policy implications. Therefore, Takayama's work, while academically attractive, might have only limited usefulness for Bank operations.

3. Should Takayama's methodological approach be accepted, there appears to be sufficient "fat" in his present budgetary proposal to warrant some trimming. While his proposed mathematical approach is eminently elegant, it does retread a fair amount of ground already covered by himself and others. Much of the work involves expanding the dimensional capability of computer programs already in existence. The really new research appears to proceed at too slow a pace.

4. It would be worthwhile at this stage, if it was possible, to compare any tentative projections Takayama et al. might have for one or two commodities, under what they consider as the most realistic assumptions, with those of other commodity specialists. That way, some judgment can be formed about how good their approach is.

PYeung:tl



OP-RESEARCH

Mr. Shamsheer Singh

August 28, 1974

Peter Pollak

Comments on the Takayama Research Proposal
for Agricultural Commodity Model

1. This appears to be an impressive undertaking. Both Professors Judge and Takayama are well-known economists with substantial experience in commodity model building. This makes the successful completion of a project like this more likely.

2. I think nobody would argue the usefulness of having such a model. Hence, I would like to focus in on what I think may be some weaknesses in their approach.

- (a) Like all linear programming models a commodity model of this type would produce results which are optimal in the sense of a neo classical perfect competitive equilibrium solution. I wonder whether this is a useful assumption for projections. Although one could make a case for such projections "under optimal conditions" I would argue that the majority would want to know what the likely values of the "strategic variables" will be in the future. A good example are our price projections. Projects and regional departments of the Bank need expected actual prices for some commodity.
- (b) I take it from the proposal that the model will be limited to grains, oilseeds and meat products. Although this is certainly a large important subsector of the world trade in commodities, I am not clear if this includes also the whole fats and oils complex.
- (c) I wonder whether it is possible to simulate bufferstock operations by using demand and supply relationships which were estimated for a period when no such buffer stocks were in operation. In other words, I would argue that producers and consumers might behave quite differently if they know that a buffer stock is available to stabilize prices or incomes.

3. These brief comments should not distract from the tremendous importance of the proposed research nor the quality of the proposal.

PPollak:tl *RKX*

OK RESEARCH
(RPO # 239 + RPO # 311)

INCOMING CABLE

Amelia

NNNN

RCW6

AAZ8ZC YWB279 RMZ9579 UYS155 L6D597 TX24293

URVN CO 6BL6 018

ONDONLG 18 28 1640

August 28, 1974

Distribution

Mr. Anderson
Mr. Rovani

D ANDERSON INTBAFRAD
PUBLIC UTILITIES DEPARTMENT
WASHINGTONDC

v Country

MISS LENTHES LETTER OF AUGUST FOURTEENTH RENEWING CONTRACT

NOW RECEIVED

TURVEY

Concerning consultant contractual agreements
Re: RPO 239 } Public Utility Pricing
RPO 311 }
Public Utilities Department Retainer

OP RESEARCH

Mr. H. Vergin

August 28, 1974

Shamsher Singh *SS*

Rubber Research Project

I appreciate your sending me a copy of Mr. Lesueur's memorandum dated August 16. Perhaps the following explanation will help to clarify any misunderstanding that may have been created.

We are at the moment engaged in drawing a detailed outline of a research study on the future prospects of natural rubber in the context of which we plan to forecast demand, supply and prices to 1985 and 1990. The study will be one of the important items of our work program for FY 1975. We plan to discuss the outline with departments concerned and hope to enlist their active support, particularly in the supply projection exercise.

Mr. Grilli from our Division will be responsible for the study and Mrs. Maria T. Hooft - a well-known expert on rubbers - will consult with us during its preparation. Her inquiries about Malayan rubber were preliminary in nature and designed to help us in drawing the outline for the study. These inquiries were made during her visit to Malaya in connection with her personal participation in the Rubber Planters Conference. Mrs. T. Hooft was an adviser to the Malayan government on rubber and her request for statistical data and other information should be judged in the perspective of her past and present personal relations with the Malayan rubber authorities.

EG
cc: Messrs. Tims; Grilli; Milford; Lesueur

EGuelli

OP-RESEARCH

WORLD BANK RESEARCH PROGRAM

COMPLETION REPORT

Date of Submission: August 27, 1974

I. PROJECT IDENTIFICATION AND APPROVAL OF REPORT

Title: Financing Small Scale Industries

Project RPO No.: 277

Department: 610
Development Economics

Division: 10
Economics of Industry

Staff Members/Kathleen DiTul
Responsible: Helen Hughes

Date
Approved^{1/} April 1973

Amount (\$) Authorized^{2/}
US\$ 35,000

Total (\$) Disburse
US\$ 34,729

Staff (staffmonths)
Prof: 4 S.S. 1/2

Approval:

Vinod Prakash
Division Chief (Signature)

Helen Hughes
Department Director (Signature)

II. PUBLICATION DETAILS, DURATION OF STUDY

Date of
Contract^{3/} October 1973

Date of
Completion^{4/} June 1974

Publication
Date^{5/}

Title of Final Report/Publication, Authors^{6/}

Financing the Development of Small Scale Industries, by D. Kochav, H. Bohlin, K. DiTullio,

I. Roostal, N. Wahl

Other Publications ^{7/}

⁸ Country Annexes for internal Bank use: Financing Small Scale Industries in Colombia, Trinidad & Tobago (Roostal), Zambia (DiTullio), Iran, Korea, Singapore (Wahl), Guyana (Bohlin) Tunisia (Bohlin & Roostal)

Names of Consultants/Consulting Firms/Research Institutes

David Kochav, Nurit Wahl/ Project done in collaboration with the Swedish International

Development Authority (2 consultants: I. Roostal and H. Bohlin)

- NOTES:
- 1/ Month/year first approved by Research Committee
 - 2/ First authorization plus supplementary authorization
 - 3/ Date first contract signed
 - 4/ Date final disbursement made
 - 5/ Actual or expected publication date
 - 6/ Indicate publication details if relevant
 - 7/ Names of other publications linked to the project, e.g. symposium articles, journal articles, working papers, etc.

III. EVALUATION BY SUPERVISOR

The following aspects of the project must be covered in an evaluation by its principal supervisor, to be submitted as a part of this Form:

1. Quality of output in terms of its expected pay-off to intended users, both inside and outside the Bank, and the appropriate form of its distribution and dissemination.
2. The identification of further research problems that the project brings out.
3. Consistency of the output with the terms of reference to the consultants and with the approved work program of the study as a whole.
4. Implementation factors:
 - staff input, supervision and execution;
 - nature and extent of collaboration with outside research institutes, and problems encountered, if any;
 - quality of consultants.

1. This project was initially more ambitious, with a \$70,000 budget, and a proposal for greater country study depth. Subsequently, the budget was cut to \$35,000, and a decision was deliberately taken to meet the operational demand for a global picture of current financing and related assistance programs for small industries. The aim was to gain breath of knowledge of these activities rather than depth in any one country or on any narrowly defined problem. In the course of preparation of the fieldwork, interested Bank staff from all operational as well as staff-support departments and staff of other development institutions were involved in the review of the terms of reference, in discussion on the problems of increased lending to small industries (a target group about which admittedly little factual information is available), and in the final selection of the countries to be covered in the fieldwork. These discussions directed the report into the shape it finally took.

2. The main report and the eight country annexes are consistent with this background and with the terms of reference. The main conclusion is, in one sense, negative. The country surveys did not show any successful experience in development of small industries. The study of Israel, undertaken as a background, was thought to be exceptional. In Korea and Colombia data were not available on small-scale firms separately from medium scale. All the data available were on loans, not on firms to which loans were made. The members of the research team, however, also drew on their experience in countries other than those studied (including India, Pakistan, Bangladesh, and Kenya), to make suggestions for alternative forms for future Bank Group (and other development institutions) lending to small industries. Given the lack of successful experience, particularly in least industrialized countries which need assistance most, the emphasis is on an innovative experimental approach. The project thus fulfilled the expectations of an operationally-oriented rather than an academic report. It is clear from the findings that definitive information about either the role of small-scale industries or the financial costs of lending to them would require costly and intensive country work. The findings of such projects would be country-specific, or even specific only to one region within a large country.

3. Collaboration with the Swedish International Development Authority (which provided two consultants for the research team) enabled the number of countries covered by the fieldwork to be increased. The SIDA consultants contributed valuable experience in the field of small industries in developing

III. EVALUATION BY SUPERVISOR (continued)

countries and in Sweden. The five-member research team (two Bank consultants, one Bank staff member, and two SIDA consultants) led by David Kochav, in spite of the considerable disruption caused by the war in the Middle East, completed the project within a year and within the budget.

Mr. Shamsher Singh

August 27, 1974

Ezriel Brook *S.B.*

Comments on Takayama's Research Proposal

1. The description of the commodities involved is very general. They include grain, oilseeds and meat products. It is desirable in my opinion to be more specific as to the number of commodities involved and their description.
2. The strategic variables are not well defined and the particular alternative policies evaluated are mentioned only in very general terms.
3. The research proposal does not assume the responsibility of evaluating the cost of policy measures. Therefore the question of the required capital for production expansion and its sources are left unanswered.
4. Literature cited shows most studies failed to achieve their stated objectives (such as Tsujii, Eckaus and Parikh) but no detail information is provided as to how Takayama's study will improve previous deficiencies.
5. Transportation costs which are crucial to Takayama's study will be probably hard to obtain, but the difficulty is grossly overlooked. For example they write: "other necessary information are: (1) international transportation costs between any pair of countries for each product and for various modes of transportation.... The F.A.O., ministries in each country do provide necessary information, and we have some information on these statistics through our previous and present works."
6. Because the quadratic programming suggested imply using only linear functions, therefore there is no answer to the problem of confronting non-linear relationship in the demand or supply equations. The question then is why not, considering the use of non-linear programming, dynamic programming on other technique.

OP-RESEARCH
(RPO #316)

Mr. D. Strombom

August 26, 1974

George Beier

Sites and Service Research, Visit with Professor Caminos

1. On August 22 and 23, Messrs. Patel, DeLaval and I visited Professor Caminos and two members of his staff at MIT for the preliminary discussions of terms of reference for the research that they planned to undertake for the Bank. You had copies of the draft terms of reference and background papers that we sent to Professor Caminos in the week before the visit.

2. In spite of the preparation on our part, the discussions started with the two teams very far apart on the basic question of what could be the reasonably expected content of the study. Briefly the Caminos position seemed to be:

(a) That the broader economic questions were outside his expertise and that even supervision of an economist to work on them should be in the Bank rather than in Caminos' shop.

(b) That even the narrower economic questions, specifically the costing of alternative site designs and alternative service levels, were either impossible or irrelevant.

(c) That the basic content of the work should be on physical design standards. (See draft presented by Caminos, attached.)

3. As you will see by the attachment, it is not at all clear that the Bank's concerns (as summarized in the draft terms of reference and the background documents) had any noticeable impact on Caminos' plans prior to our meetings. He had not hired an economist, and he planned to have an economist's input only from about the middle of the study. It was not clear to me what an economist would do in the study as suggested by Caminos.

4. From this initial position we arrived at a tentative agreement that the draft terms of reference would be revised to include four items:

(a) A set of minimum forms that must be completed in the preparation of a good sites and services project -- minimum plans and designs, specifications, bills of quantities, criteria for cost estimates, etc. Although he rejects the word, this is a methodology section pertaining to initial project preparation.

(b) Presentation of standards for site design and the supply of services, in sites and service and squatter upgrading projects.

August 26, 1974

(c) Development of modal layouts showing a series of alternative levels of service for the principle components of sites and service projects, and the cost of varying the level of each of the services under normal site conditions.

(d) The cost and service implications of deviation from normal site conditions.

5. Caminos is preparing a draft terms of reference, on the above agreed outline which should arrive this week. I think that the revised list of outputs would be useful and that we should go ahead with the dialogue with Caminos, trying to amend his terms of reference, as necessary, to make sure they cover the points "c" and "d" above in sufficient depth.

6. We shall eventually have to reconsider the budget for this project if we decide to go ahead. Several inputs, most notably the economists, have been dropped and the revised study should therefore have a cost underrun.

Attachment

cc: Messrs. Patel
DeLaval

GBeier:rm

URBANIZATION STANDARDS RESEARCH

21 August 1974

PURPOSE

This proposal presents a research project aimed at developing an "urbanization primer" for site and services and similar projects. It is specifically geared towards operational needs of the Bank's urban projects divisions and deals with the physical and technical aspects of sites and services projects and their relation to overall relative costs of construction and maintenance.

The 'primer' is intended to serve as a technical manual with reference to standards, frameworks and guidelines for surveys, evaluations, design, and development of urban dwelling environments for low income people in developing countries. It will also investigate the relationship between the physical and economic aspects with the objectives of establishing trade-offs between various design alternatives. It is intended to contribute to the efficiency of project designs.

MAIN PRODUCTS OF RESEARCH

The focus of the work will be in three main areas: development of operational guidelines; development of prototype projects to illustrate design methodology and design principles; and consideration of economic aspects of prototype projects (to be developed later). Of the different topics/aspects to be addressed, some will be covered in depth and others will only be touched on briefly.

a) DEVELOPMENT OF OPERATIONAL GUIDELINES/CHECKLISTS

The guidelines will be developed to be independent sections/topics. The focus of the work will be in areas appropriate to site and services projects. The primary areas are as follows:

-National and urban context: containing guidelines for presentation of basic information and notes. Topics included are:

Urbanization trends: policies, programs and priorities.

Housing sector: description of needs, supply and demand, policies, programs, and institutions

Identification of dwelling/land systems: description of physical, social, and economic systems existing in a particular context in order to determine appropriate models of development *etc*

-Site context: containing guidelines, standards for selection, evaluation, planning, design, and development. Topics included are:

Environmental, physical conditions: location, approaches, accesses, transportation, size, shape, topography, natural features, soil, climate, boundaries, views, flooding, nuisances (dust/dirt, smoke, noises, vibrations, fire/explosion hazards), airport disturbances/zoning restrictions, existing structures, easements, rights-of-way, land tenure, cost
Utilities, services, community facilities: water supply, sewerage, storm drainage, electricity, street lighting, gas, telephone, circulation, public transportation, police protection, fire protection, refuse collection, health, schools, playgrounds, recreation, parks, open space, business, commercial, small industries.

Government/municipal regulations: master/general/city plan, zoning ordinance, subdivision regulations, building code.

-Community context: containing guidelines, frameworks, standards for planning, design, and development, particularly for site and services projects. Topics included are:

Land development: income groups, intensity of use, land tenure, land use (residential, business, commercial, industrial, schools, playgrounds, parks, open spaces), circulation, land subdivision.
Utilities, services: water supply, sanitary sewerage, storm drainage, electricity, street lighting, gas, telephone, public transportation, police and fire protection, refuse collection.
Time considerations: development modes, implementation, monitoring systems.

- Dwelling context: containing guidelines, standards for design, planning, and evaluation, particularly for self-help housing.

b) DEVELOPMENT OF PROTOTYPE PROJECTS/PHYSICAL SOLUTIONS/MODELS

The models will be used to illustrate design methodology and design principles. The models will serve as guides for decision making in future and on-going site and services projects. The stress will be on fundamentals of efficient and economic designs. Relative cost relationships will be derived for the various models developed.

The prime criteria for selection/determination of prototypes/models will be REAL cases. Selection will be in three areas:

-Existing cases developed by the Urban Settlement Design Group; examples:

La Marina: a market development in San Juan, Puerto Rico.

Dandora: a site and services project in Nairobi, Kenya.

Mkalles: a housing project in Beirut, Lebanon.

-On-going and completed cases developed in the World Bank; projects would be evaluated and alternatives considered; selection of cases are based on illustrating a wide range of approaches/options.

-A new case/project to be developed jointly by World Bank and by the Urban Settlement Design Group; the project would be jointly worked out in detail to illustrate design methodology and design fundamentals. Documentation of the work serve as guidelines for future developments.

c) ECONOMIC ASPECTS OF PROTOTYPE PROJECTS

The emphasis would be on developing relative cost ranges for various components of the planning, prototypes. [Acceptable costs would be determined.]

(this section will be further developed after consultation with economists)

OP-RESEARCH
CAPU#320

INCOMING CABLE

Vo

INIFRAD 64145

Distribution

Mr. Venkateswaran
Mr. Jaycox
Mr. Holmers

WUI NYK

WUII PWA333 SINGAPORE 35/53 26 1148

August 26, 1974

STATSNG

VENKATESWARAN

INTBAFRAD WASHINGTONDC

Aug 26 9 29 AM 1974
COMMUNICATIONS
SECTION

RECEIVED

REYRCAB 22 AUGUST WE ACCEPT AMENDMENTS PROPOSED

INVBLET OF 7

Trans. Transit. Study
AUGUST STOP VISIT SINGAPORE 9

TO 11 CONVENIENT STOP HAVE

WRITTEN TO YOU RE SOILS INVESTIGATIONS STOP REGARDS

LIANNOCKLIAN

OP-RESEARCH
(RPO#315)

INCOMING TELETYPE

From: Djakarta

August 26, 1974

Distribution

Mr. Herral

Mr. Jaycox

Mr. Sandberg

26 9 43 AM 1974

COMMUNICATIONS SECTION

RECEIVED

1191 HARRAL

REFERRED YOUR LETTER STUDY PROPOSAL, WE ARE INTERESTED,
DECISION STILL PROCESSED. LETTER SOON FOLLOWED.

NUTRITION -

DARWIN KARYADI

Handwritten notes:
Nutrition proposal filed
LET WORKED FILED
WE DOES W
OP-RESEARCH

IBRD JKT44456.

248423A IBRD UR

RPO#315

OP-RESEARCH
(APP #320)

Clell G. Herral, Ed Holland

August 26 1974

Peter Watson

Air Pollution Monitoring

1. On Friday, August 23, I visited the D.C. Air Monitoring Station. The Director of the monitoring program, Dr. H. Wood, showed me around and explained the procedures for air quality monitoring.

2. Air quality monitoring is a matter of public health. Standards have been set for ~~six~~ pollutants; a level above the standards indicates a health hazard. (see attached list for standards). Two points should be noted: 1) the health hazard applies only to certain groups, i.e. the elderly, the young, those with respiratory or coronary conditions; 2) little can be said about pollution levels other than relative to the health hazard standards. The D.C. monitoring group regards any movement towards or to below the standards as highly desirable. Below the standards, they are unable to determine what is a "good" or "meaningful" reduction. (Actually, they cannot do this above the standards, but they define any downward movement as good).

3. The six critical pollutants are:

- 1) Sulphur dioxide
- 2) Suspended particulates
- 3) Carbon monoxide
- 4) Hydrocarbons (Non-Methane)
- 5) Nitrogen Dioxide
- 6) Photo chemical Oxidants (Ozone)

4. Of these sulphur dioxide and particulates are unrelated to automobile traffic, except to the extent that dust and particulates from trucks result. Ozone is also of little importance to us, as it takes four hours to produce and, thus, cannot be related to specific areas. (i.e. ozone in one area depends on both pollution and climatic conditions, notably wind, during the previous four hours). Nitrogen Dioxide is also a secondary effect, which takes approximately one hour to appear.

The most important auto-related pollutants are carbon monoxide and hydrocarbons. Dr. Wood indicated that their measurement would give a clear indication of air quality changes due to a restraint-type experiment.

5. Both of those pollutants are easily measured. This can be done by on-the-spot monitoring by mobile equipment (in vans) or by collecting samples of air (in plastic bags with a portable pump) for analysis at a central location.

6. I recommend that we plan to monitor carbon monoxide and hydrocarbons in Singapore. We should ask Bruno to check on the availability of analysis facilities as well as on the objectives of the Singapore government. We should also copy these recommendations to U.N.E.P. for comment.

PWatson:ww



OP-RESEARCH
(RMO # 320) RECEIVED

INCOMING CABLE

24 AUG 24 12 55 PM

Distribution:

Mr. Harral
Mr. Jayson

WU1001 PWA259

SINGAPORE 23 24 1025

Aug 24, 1974

LT

HARRAL INTBAFRAD

WASHINGTONDC

THANK YOU FOR INFORMING TENTATIVE SELECTION OF
SRS STOP WILDERMUTH HAS CONFIRMED AUGUST
28TH MEETING FROM HONGKONG REGARDS

GERAGHTY

CFM 28TH GERAGHTY

OFFICE MEMORANDUM

TO: Clell G. Harral, Ed Holland,
Bruno Wildermuth

DATE: August 23, 1974

FROM: Peter L. Watson *PLW*

SUBJECT: Statement of Research Objectives of Singapore Traffic Restraint Study.

1. This memorandum represents a refinement of the statement in my memorandum of August 13th; it incorporates the results of the discussions held on August 14th and 15th.
2. The objectives of this study are two-fold:
 - a) to use the Singapore experiment to develop and test methods of measuring and evaluating the impacts of traffic restraint schemes;
 - b) to establish a suitable data base and conduct research on the development of improved travel demand models.

3. Evaluation

The evaluation phase of this research encompasses two major tasks. One is to develop a methodology for evaluating a traffic restraint scheme; this involves presenting data on the impacts of such a scheme and weighing the relative importances of different impacts. The other involves identifying and measuring the impacts. As the scheme will begin in February, 1975, the first priority is to identify potential impacts of the restraint scheme and to set up a program for measuring them. Three categories of impacts have been identified. They are detailed below together with a description of the required survey and field work.

A. Impacts on System Performance

These impacts are revealed by changes in:

- 1) Volumes of vehicles (cars, m/cycles, trucks, buses) at different times of day and in different locations;
- 2) Vehicle occupancy rates (cars, m/cycles, buses);
- 3) Speeds on selected links in the system (auto, m/cycle, truck, bus);
- 4) Volume, frequency, and duration of parking;
- 5) Parking charges (emphasizing their incidence and impact on the provision of parking for employees);
- 6) Waiting times on public transport;

- 7) Accidents (including pedestrian involvement);
- 8) Pedestrian mobility (emphasizing pedestrian volumes and flows, plus pedestrian delays caused by vehicle traffic);
- 9) Air pollution;
- 10) Noise;
- 11) Amenity (broadly defined to represent the user's perception of the ambient conditions in the controlled area).

B. Impacts on the Behavior of Individuals and Households.

These impacts are revealed by changes in:

- 1) Vehicle ownership (including type of vehicle, number of vehicles and vehicle replacement rates);
- 2) Relative usage of alternative modes;
- 3) The time of day when trips are made;
- 4) Places of employment, shopping, recreation;
- 5) Place of residence (including costs of purchasing or renting accommodation).

C. Impacts on Business Activity

These impacts are revealed by changes in:

- 1) sales;
- 2) labor availability (shortages may occur if certain groups cannot or will not travel into the controlled zone);
- 3) availability and cost (rents) of commercial property (for purchase and rent);
- 4) commercial location (especially relocation of commercial activity outside the controlled zone);
- 5) land values;
- 6) climate for business.

To measure the impacts of the traffic restraint scheme on these dimensions requires before and after data on the above items. This data will come from a variety of sources:

1) The Singapore Government.

Data from this source is expected to be available on volumes of vehicles (A1), parking (A4), vehicles occupancy rates (A2), waiting times on public transport (A6), accidents (A7), and vehicle ownership (B1). The nature and quality of the data to be obtained from the government is currently under investigation by Bruno Wilderemuth.

2) Before and After Household Surveys. (Contractor)

These surveys will yield data on changes in vehicle ownership (B1), modal and temporal changes (B2 and B3), changes in trip destinations (B4), changes in residential location (B5), public transport characteristics (A3 bus, A6), cost of parking (A5), pedestrian mobility (A8).

3) Speed Flow Study.

This study will track vehicles along selected links in order to determine changes in average speeds in the system (A3). It will also yield data on traffic volumes (a1), traffic composition, and possibly occupancy rates (A2, except buses). It may also be possible to derive information on turning patterns and route selection.

4) Business Activity Study. (Contractor)

This study will monitor changes in the level of business activity before and after the introduction of the restraint measures. Data will be assembled on land sales and taxes (C3, C5), retail sales and license applications (C1). Other topics such as provision and pricing of employee parking (A4, A5), labor availability (C2), and general effects of the restraint measures on the business community (C4, C6) will also be covered.

5) Pollution Study. (Wilderemuth and Bank)

This study will supplement government efforts to measure improvements in pollution (A9, A10) resulting from the restraint scheme.

6) Pedestrian Mobility Study. (Wilderemuth/local staff or contractor)

This study will examine the effects of the experiment on pedestrians, especially in terms of street crossing behavior which brings pedestrians and vehicles into conflict. It will cover intersection waits, jaywalking (B5) and pedestrian/vehicle accidents (A7).

7) Central Area Attitudinal Survey. (Contractor)

To measure amenity (A11) is a difficult task. This study will conduct open-format, before and after interviews in the down-town area to elicit from users their views on a) the general level of amenity, b) possible improvements (especially "before"); and c) results of the experiment ("after").

August 23, 1974

In some areas these data collection efforts overlap to provide richer data. Together they will enable us to produce a comprehensive picture of the effects of the traffic restraint scheme.

4. Model Development.

Advantage is being taken of this data collection effort to establish a data base for the development of improved travel demand models. (For details, see my memorandum of August 13; Section 3 is annexed to this memorandum). This being the case, the data to be collected, especially in the household surveys will encompass a wider range of households and trips than would be required for the evaluation alone. For example, school, off-peak and non-C.B.D. - oriented trips will be included. Research will be carried out on this expanded data set to improve trip generation and mode choice models, to conceptualize and test a trip scheduling model, and to investigate decision behavior with regard to alternative destinations.

PLWatson:mcp

cc: Mr. Cengiz Yucel
Mr. Gabriel Roth
Mr. Ben-Bouanah

ANNEXModelling Research

Within the area of modelling research, our efforts will be concentrated on three fronts:

- a) Modifications to the existing Mode Choice and Generation Models;
- b) Development of a Trip Scheduling Model;
- c) Experiments with a Destination Choice (/Mode Choice) Model.

The first developments, (a), are envisaged as being implemented into the current model package on completion. The Trip Scheduling Model is required for analysis of restraint schemes of the Singapore type. The Destination Choice work is research of a more basic type with longer-run implementability.

a. Modifications to Existing Models: Mode Choice

The first task is in the nature of a technological improvement to existing mode choice models. The basic mode choice model relates the proportion of travellers choosing private over public transport to the relative times and costs of the journey by each mode. At present, a series of observations of the proportion of auto travellers from zones with the same time difference are plotted as "diversion curves". By also taking into account cost differences, a "family" of diversion curves may be developed, expressing the proportion of auto travellers at different time and cost differences. It is my understanding that these curves are plotted by hand, and then a selection of observations from them are transferred to the computer.

This procedure could be improved by using the statistical technique of logistic analysis to fit logistic curves to the data. The use of the logistic curve is most suitable given the traditional shape of a diversion curve and the necessity to restrict the proportion of auto travellers to the range from 0% to 100%. The curve to be estimated would be:

$$\log \frac{P}{(1-P)} = \alpha_0 + \alpha_1 \Delta T + \alpha_2 \Delta C$$

P = proportion of auto travellers
 ΔT = time difference
 ΔC = cost difference

Fitting the curve by statistical techniques has several advantages over manual approximations:

- (i) it is notoriously difficult to fit a non-linear curve by hand. Thus, statistical estimation should lead to an increase in accuracy.

- (ii) the use of statistical techniques will enable multivariate estimation of the relationship, eliminating the need to produce families of curves. (Note: the production of families of curves becomes less reliable as the number of observations diminishes towards extreme values.)
- (iii) the use of statistical techniques enables us to evaluate a continuous function, which is an improvement over interpolating between curves derived from a limited selection of time and cost differences.

Such a modification represents an improvement in technology rather than a development of the conceptual basis of the model.

Data requirements from Singapore study. To develop and test this type of mode choice model, data is required by trip, on the times and costs by the alternative modes, and on the mode chosen. From this data both diversion curves and logistic models may be developed and tested to demonstrate the benefits from a statistical approach.

b. Modifications to Existing Models: (2) Generation Model.

This research effort is designed to meet one of the most fundamental objections to the current travel demand forecasting methodology, namely, that evaluations of alternative transport systems are based on a fixed trip matrix. This implies that the number of trips generated by the model package is unresponsive to transport system changes. This is inconsistent with an economic theory of travel which postulates that trips will be made when their value to the traveller exceeds (or is at least equal to) their cost. Thus a transport improvement will reduce certain costs and "generate" new trips. Using data from the Singapore study, we shall develop a modified version of the trip generation model, which is more realistic in the sense that it is responsive to transport system supply.

My basic hypothesis is that, ceteris paribus, a better transport system implies lower costs and, therefore, more trips (with the possibility of the existence of an upper limit). Thus, I currently see the research task as one of representing the availability of transport in the generation model. The availability of, or accessibility to, transport is difficult to measure. What is required is a proxy variable which captures the essence of availability. Some proxy variables, such as distance from the CBD and average time taken to reach the nearest 3000 jobs, have been tried. My objective is to test a variety of formulations. The specific formulation clearly cannot be set out at this stage; certain criteria, however, may be established as guidelines.

- (i) The measure should reflect the availability of both automobile (ie, roads) and public transport.
- (ii) It should be related to destinations (job sites and types, shops, etc.) that are used (or are likely to be used). Thus, a train to the CBD may be readily available but irrelevant if the workers in a given zone work in suburban factories.
- (iii) If possible, it should reflect accessibility to alternative destinations.

Development of this type of model requires a very flexible data base so that many variations on basic hypotheses may be tested. The primary data inputs (apart from those required for the existing generation model) are distances, times and costs, by each mode, for different (all?) zone-to-zone pairs. Employment data, by zone classified by type are also required.

c. Trip Scheduling Model.

A trip scheduling model will model the factors that influence the time of day at which a trip is made. In the past, a rather ad hoc, peak/off peak dichotomy has been used. This was adequate for past purposes. The introduction of an area license for the morning peak hours, however, raises a new problem. It is hypothesized that some travellers will make their journeys before or after the licensing period, thus avoiding the higher charges. This is likely to be an important result of a Singapore-type area licensing experiment and we must attempt to model its effects.

My current thinking on this model is that it can be handled in much the same way as existing mode choice models, i.e., by representing the time and (especially) cost trade-offs in terms of the differences between time periods. Three major problems arise with this approach:

- 1) Some travellers will be constrained by their work hours or other factors to travel within the licensing period.
- 2) Some people will choose to travel before, and some after the licensing period.
- 3) The characteristics of travel outside the licensing period will vary with the number of people who switch (This is also a mode switch problem; in this case we might try to do more with it than has previously been done. At least iterative methods of reaching stability should be investigated).

From these constraints, I see a two stage model developing. The first stage will express the proportion of travellers from a given zone that are potential switchers as a function of, say, income, occupation; the second stage will relate the proportion who do switch to time and cost differences.

Clearly, this model is closely related to the mode choice model in more than structure. A time switch and a modal switch may be alternative actions. Thus, we will have to examine the linkages between the two models and the possibilities for combining them.

Data requirements from the Singapore study. Based on a two-stage model as outlined above, two types of data are required. The first is on the potential for switch time periods; this can be obtained from the questionnaire. The second is on times and costs in and out of the licensing period.

Since a behavioral model is best tested on observed behavior, this model requires data from the before and after studies to identify switchers and the choices that were open to them.

d. Destination Choice Model.

The development of this model represents the most basic research effort and is, hence, the least well specified. Two primary approaches may be taken. The first is based on existing work aimed at integrating the distribution and mode choice models. Such efforts have proved successful in England and are currently under investigation by the U.S. D.O.T. These developments will be reviewed in the near future. They should pose few data requirement problems as they are likely to require data typically available in a transport study.

The second approach represents an extension of disaggregate modelling techniques to the destination choice. Similar work is currently underway at Northwestern University under a D.O.T. University Research Program and an Illinois D.O.T. contract. The basic hypothesis is that the choice of destination depends on the attractiveness of alternative destinations and the relative difficulty of travelling to them. Problems to be solved include:

- (i) how to characterize "attractiveness". For the journey to work, employment and floor-space measures are potentially useful; for shopping trips, less is known but the subject is currently under investigation at N.U.
- (ii) how to characterize "alternatives". To maintain research flexibility, the data should be versatile enough to permit a variety of interpretations.
- (iii) how to represent difficulty of access, especially in terms of which mode or modal average.
- (iv) how to model, i.e. binary or multiple choice models, sequential or simultaneous, one or more choices.
- (v) aggregation, both at the estimation and prediction stages.

Data requirements from the Singapore study. For each trip, it is necessary to be able to characterize the destination selected and the alternative methods (modes) of reaching that destination. Characterization should be available in terms of employment and any other available activity measures. This data cannot be obtained from the questionnaire, but the questionnaire should contain enough detail to relate the destination to existing activity data. Also, it may not be feasible to obtain complete (alternative mode) trip data from the questionnaire. Again, enough detail must be obtained to reproduce the trip from existing trip and network files.

This project will require much manipulation of data from different levels of aggregation and a certain degree of compromise between data requirements and availability.

General Data Availability.

I am working on the assumption that three types of data will be made available:

- 1) From the before/after surveys we will obtain data on households and trips.
- 2) From the previous study, we will obtain a socio-economic activity file, giving population, income, employment, etc. by zones.
- 3) From the previous study, we will obtain a network file, from which zone-to-zone times and costs by private and public transport may be derived. (This data will, of course, be limited by the assumption of the models that produced it).

An important element of our discussions this week should deal with the question of the extent to which the data which will become available will meet our requirements.

Mr. Paul Berthoud

-2-

August 23, 1974

training course that you have proposed. We look forward to collaborating with you in this effort and in other areas of mutual interest.

Yours sincerely,

Clell G. Harral
Chief, Transport Research Division
Transportation and Urban Projects Department

CGHarral/EPHolland:gba

cc: Mr. Harold Dunkerley
Mr. Strombom, Urban Projects

OP-RESEARCH
(10104320)

CSA

August 23, 1974

Mr. Gordon J. Geraghty
Director
Survey Research Singapore (Pte) Ltd.
First Floor
29 Jalan Jitan
Singapore 9

Dear Mr. Geraghty:

Bruno Wildermuth met with us the latter part of last week, and we went over all of the plans for the Traffic Restraint Study, including plans for the household and other surveys. Besides Wildermuth, Ed Holland, and myself, the group also included Peter Watson, who has taken leave from Northwestern University's Transportation Center and Economics Department to join our staff full time for this study.

From a technical standpoint, we found your proposal the most acceptable that we have received, although not the lowest priced. After some modifications discussed below, I hope that we can get it cleared through the Bank's procurement administration and reach a contractual agreement in a reasonably short time.

In our discussions, we decided on some refinements to the sample design, and we agreed that there were a number of points on which the proposal should give more detailed or more explicit information. I will outline our conclusions here. Wildermuth can discuss them with you fully after his return to Singapore (which will probably be about August 28 or 29, following some work in Hong Kong).

After discussing the multiple purposes for which these data are to be collected (research on decision-making as well as measuring the impact of specific policy measures), and the uncertainties about distributions of households along various dimensions that might be used for stratification, we decided it would be wise to hedge a little by increasing the number of single-car households relative to the other household types. Bruno Wildermuth will discuss specific numbers with you and determine whether this calls for an increase in the total number of households, or just a shift within the same total.

August 23, 1974

The matters on which we would like more information than is given in the proposal document are as follows:

- (a) For the sample of Type D households, we would like to have a concrete description of the SRS master PSU frame.
- (b) We would like more explanation of your procedures for editing data, consistency checking, etc.
- (c) Wildermuth will specify what tabulations are required and these should be listed in the proposal.
- (d) We will require an organization chart of the study team, and will want assurance that the key members of the team will not be shifted and replaced without our approval.

What we want to include in the contract at this time are the primary survey, approximately as described in your main proposal, the first follow-up survey (Option B), and the Business Impact Study as described in the addenda. For the present, at least, we would not include the second follow-up survey since our budget is not large enough to cover it. This decision will be reviewed some time next year after completion of the initial phase of the study.

We hope that you and Bruno Wildermuth can quickly reach agreement on the clarifications to the proposal and modifications to the sample design, and we will be looking forward to receiving revisions to the proposal very soon so that we can go ahead with the next steps.

Very sincerely yours,

Olell G. Herral
Chief, Transport Research Division
Transportation and Urban Projects Department

CGHerral/EPHolland:gbm

cc: Mr. Helmers, East Asia and Pacific
Mrs. F. Stone, Personnel
Mr. C. Mulchay, Transportation and Urban Projects
Mr. Venkateswaran, Urban Projects
Mr. Holland, Transport Research
Mr. Watson, Transport Research
Mr. Wildermuth, Wilbur Smith and Associates

OP-RESEARCH
(PROPOSAL)

August 23, 1974

Mr. Heinz Dieter Besser
60 Wadsworth St. Apt 12-G
Cambridge, Massachusetts 02142

Dear Mr. Besser:

Mr. Harral has asked me to send you some material on the proposed study in Brazil on Highway Design Standards. We expect to start the study in January 1975 and it will run 3½ years. I have enclosed two papers on the study: 1) gives an overview of the study with the main objectives and 2) this is the proposal and work plan for the Brazilian work.

I would welcome any comments on the proposal which you might have. Also we are thinking about the recruitment of personnel for the study. If you have names (and addresses) of personnel that you think would be suitable candidates for working on the project, we would be glad to know about them.

Very truly yours,

Leon H. Miller
Transport Research Division
Transportation and Urban Projects Department

Enclosures

LHM LHM:mcg

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT
ASSOCIATION

INTERNATIONAL FINANCE
CORPORATION

August 22, 1974

Mr. Stern

RPO 277: Small Industry

Ernie,

1. I share your disappointment about the output of RPO 277. More intensive case studies than those conducted could have been more productive in generating relevant information of operational interest.
2. Please note that many of the questions in your paragraph 2 were excluded from the scope of RPO 277 at the outset. The scope was agreed by Research Committee and by Operational Bank Departments concerned at a seminar chaired by Helen Hughes in October 1973.

me

Ravi Gulhati

OP-RESEARCH

OP RESEARCH
(KPO 320)

August 22, 1974

Mr. Bruno Wildermuth
Mass Transit Study
10 Pender Road
Singapore 4

Dear Bruno:

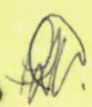
1-24-74 *AUG 22 1974*
I enclose two memoranda based on our discussion last week. The first sets out in some detail the research objectives of the traffic restraint study; the second deals with the derivation of the sample sizes. The former is a draft and I welcome any comments that you might wish to make. The latter assumes that we a) quota sample on income, b) increase the one-car household sample size, and c) do not insist on a 50-50 split for the supplementary CBD-bound sample. The extent to which we implement these strategies depends, of course, on the results of your discussions with Geraghty.

I look forward to hearing the results of your inquiries.

Yours sincerely,

Peter L. Watson
Transport Research Division
Transportation and Urban Projects Department

Enclosures

PLWatson:mcp 

*OP-RESEARCH
(RPO #320)*

OUTGOING WIRE

TO: GORDON J. GERAGHTY

DATE: AUGUST 22, 1974

ESARES

CLASS OF
SERVICE: LT

3958

| 1 #

COUNTRY: SINGAPORE

TEXT:

Cable No.: SRS TENTATIVELY SELECTED FOR HOUSEHOLD AND BUSINESS IMPACT SURVEYS IN OUR TRAFFIC RESEARCH PROJECT SUBJECT TO SOME CLARIFICATIONS AND AMENDMENTS EXPLAINED IN LETTER WHICH FOLLOWS STOP CONTRACT WOULD COVER BEFOREHAND SURVEY AND ONE FOLLOWUP OMITTING SECOND FOLLOWUP STOP BUSINESS IMPACT STUDY ALSO INCLUDED PER YOUR ADDENDUM STOP BRUNO WILDERMUTH HAS BEEN HERE AND WILL ARRIVE SINGAPORE ABOUT AUGUST 28 PREPARED TO DISCUSS AND FINALIZE MODIFICATIONS TO PROPOSAL.

REGARDS,

HARRAL

NOT TO BE TRANSMITTED

AUTHORIZED BY: Clell G. Harral

NAME

DEPT. Transportation & Urban Projects

SIGNATURE

(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE: *EPH* Holland: gbm

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

CLEARANCES AND COPY DISTRIBUTION:

cc: Mr. Venkateswaran, Urban
Mr. Helmers, East Asia & Pacific
Ms. Stone, Personnel

For Use By Communications Section

Checked for Dispatch: *SC*

INTERNATIONAL DEVELOPMENT
ASSOCIATION

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE
CORPORATION

OUTGOING WIRE

TO GORDON J. GERRAHTY

DATE: AUGUST 22, 1974

REMARKS

CLASS OF
SERVICE: IT

3228
//

COUNTRY: SINGAPORE

TEXT
Cable No.

WILL ARRIVE SINGAPORE ABOUT AUGUST 28 PREPARED TO DISCUSS AND FINALIZE
MODIFICATIONS TO PROPOSAL.
ALSO INCLUDED PER YOUR ADDENDUM STOP BRNO SINGAPORE HAS BEEN HERE AND
SURVEY AND ONE FOLLOWUP OMITTING SECOND FOLLOWUP STOP BUSINESS IMPACT STUDY
EXPLAINED IN LETTER WHICH FOLLOWS STOP CONTRACT WOULD COVER RESEARCH
TRAFFIC RESEARCH PROJECT SUBJECT TO SOME CLARIFICATIONS AND AMENDMENTS
SRS TENTATIVELY SELECTED FOR HOUSEHOLD AND BUSINESS IMPACT SURVEYS IN OUR

REGARDS,

HARRIS

NOT TO BE TRANSMITTED

cc: Mr. Venkateswaran, Urban
Mr. Helmers, East Asia & Pacific
Mr. Stone, Personnel

AUTHORIZED BY: G. J. Harris
NAME: G. J. Harris
DEPT: Transportation & Urban Projects
SIGNATURE: [Signature]
REFERENCE: [Signature]
DISPATCHED

ORIGINAL (File Copy)
IMPORTANT: See Secretariat Guide for routing form

Checked for Dispatch

OFFICE MEMORANDUM

OP-RESEARCH
(RPM 320)

TO: Mr. Clell G. Harral

DATE: August 21, 1974

FROM: Edward P. Holland EPH

SUBJECT: Proposals for Surveys for the Traffic Restraint Study in Singapore.

1. As you will recall, we invited three firms to make proposals to us for conducting the household interview surveys, which are a primary part of our Traffic Restraint Study in Singapore:

- (a) Applied Research Corporation (ARC), a local university-related firm,
- (b) Wilbur Smith and Associates, who were the principal consultants for Phase I of the Singapore Mass Transit Study, and whose senior analyst, Bruno Wildermuth, is to work with us on other aspects of the Traffic Restraint Study,
- (c) Survey Research Singapore (SRS), a commercial survey firm that has been doing market research and other surveys in Singapore and is one of a group of survey firms in several Asian countries.

The two local firms were the only local ones we were aware of that seemed to have the capabilities required. Wilbur Smith appeared to us as a possibility because of their previous, related work in Singapore and the involvement of one of their staff members in the Restraint Study.

2. After our first discussion in Singapore, Applied Research Corporation made a preliminary cost estimate of S\$192,760 (=US\$80,316) for executing and processing the first survey. This was far above our own budget estimate. Upon going over their estimate with them, we were able to point out a number of items for which excessive allowances had been made, apparently in some instances because of uncertainty about how to do some parts of the job and in other instances because of inclusion of activities we did not believe necessary for our purposes. On the basis of our comments and suggestions, ARC prepared a new estimate which was used in their formal proposal, amounting to S\$139,100 (= US\$57,958). This, however, excludes development of a sample frame for the surveys.

3. Wilbur Smith and Associates were aware of the first cost estimates tendered by ARC and indicated to us that their costs would undoubtedly be far above those because they would have to bring in staff from outside on an expatriate basis. They did not feel it would be worth while for them to prepare a formal proposal since they were sure it would not be competitive.

4. Survey Research Singapore have submitted an estimate of S\$152,700 (= US\$63,625) including development of a sample frame for the survey.

5. Peter Watson, Bruno Wildermuth, and I have evaluated the proposals

August 21, 1974

that were submitted by Applied Research Corporation and by Survey Research Singapore. As discussed with you, we have all concluded that the Survey Research Singapore proposal is superior, for the following reasons:

(a) They already have, from their prior work in Singapore, a sample frame on which to base the household survey, whereas ARC would require that the IBRD provide such a frame. Such a frame could be developed from census data, but this would require additional time and cost.

(b) Survey Research Singapore has a full-time management staff plus a permanent core group of 29 trained interviewers, which would be augmented by 33 part-time interviewers, including some who have been hired and trained for previous surveys. ARC, in contrast, would rely on faculty members for top-level guidance and students to do the interviewing. ARC indicated in discussions that they anticipate difficulties in recruiting capable middle-level operations managers and retaining students for the entire period. Most of the students would require training, and the ARC people expect a relatively high drop-out rate after they commence work.

(c) Survey Research Singapore has had far more experience with household interviews than Applied Research. Their written proposal exhibits a much deeper understanding of the problems involved in this work than that of the other firm. This contrast was even more strongly evident in personal discussions with representatives of both firms by Wildermuth and myself.

6. The higher price quoted by SRS for the first survey (US\$5,667 more than the ARC estimate) is more than fully offset by the additional work that would fall on our shoulders in preparing a sample frame in the event that ARC were to be given the job, by the evident experience and professional capability of SRS's management, and by the availability in SRS of a trained core staff of interviewers.

7. Since the proposals were prepared, we have recognized the desirability of contracting for the follow-up survey at the same time as the initial survey and have recognized needs for adding to the tasks originally called for. Part of this has been covered in addenda to the original SRS proposal, but there is still a need for further discussion to clarify some items and for decisions on the exact content of the work to be done.

8. Recommended action: Survey Research Singapore is a competent, experienced firm that is ready to proceed with the job, while Applied Research Corporation would have to do a good bit of learning as they

Mr. Clell G. Harral

-3-

August 21, 1974

went along, with uncertain results. I therefore recommend that we enter negotiations to finalize a contract with Survey Research Singapore. They should be asked to amend and refine their proposal, and extend it to encompass the additional tasks required.

EPHolland:gbm

cc: Messrs. Peter L. Watson, Transport Research Division
Bruno Wildermuth, Wilbur Smith and Associates

OFFICE MEMORANDUM

OP-2150014
(11/10/74)

TO: Clell Harral, Ed Holland, Bruno Wildermuth

DATE: August 21, 1974

FROM: Peter L. Watson

SUBJECT: Singapore Traffic Restraint Study: Sample Size for Household Survey.

1. Given the multiple objectives of this study, the data collection effort at the household level must be designed to yield a high degree of flexibility. In particular, the data collection strategy is influenced by objectives that are broader than an evaluation of the experiment.

2. We are interested in establishing a data base which can be used in research efforts to develop improved travel demand analysis and forecasting techniques. This makes it necessary to collect a data set which is broad enough to allow for the analysis of the travel behavior of sub-groups representing different socio-economic and urban categories. Thus, a primary requirement is that the data, after stratification, are suitable for statistical analysis. For least squares regression or category analysis, sample sizes as low as 30-50 may be considered suitable; for other types of analyses, such as logit analysis, larger sample (75-100) are required. This implies that, after stratification, each cell should contain this number of observations.

3. The sample is likely to be stratified by:

- (i) vehicle ownership
- (ii) income
- (iii) household size and composition
- (iv) location in the urban area
- (v) number of employees
- (vi) vehicle availability.

In addition, two-way stratifications, say by income and location, will be made. In some cases, such stratifications will lead to a reduced number of subsamples. For example, urban locations tend to contain a limited number of income groups; similarly, low income, multiple-car households are relatively rare. Given these considerations, it seems likely that stratifications leading to 20 sub-samples will be encountered. To yield an average sub-sample size of 75 observations requires a total sample size of 1500 observations.

4. As socio-economic characteristics are not evenly distributed over their ranges, an average of 75 observations means that some sub-samples will be on the low side. This problem is countered in four ways:

- A) Since income is a major stratification variable, and since it is most likely to be combined with other socio-economic characteristics, a quota sampling procedure will be employed to ensure that each income group contains a stratifiable sample. This reduces the probability that the smaller income groups will contain samples which are too small to be stratified further.

- B) As the "single-car household" is the most important from a travel demand point of view, this sub-group will have a larger sample size than the others. This will be achieved by adding 500 observations. In addition, the supplementary sample of CBD-bound cars will be selected at random, instead of being divided equally between single and multiple car households.
- C) If sub-groups are still on the small side, appropriate combinations will be made.
- D) The major classifications by vehicle ownership may be pooled, if necessary. This would require ex post sampling from the data collected to recreate the population vehicle ownership proportions.

5. From the above requirements, the appropriate sample sizes can be derived. They are:

A1	Single car households	2000	
A2	CBD-bound supplement	630	2630
B1	Multiple car households	1500	
B2	CBD-bound supplement	370	1870
C	Motor-cycle/scooter households		1500
D	Non-vehicle households		1500
	TOTAL		7500

6. The derivation of these sample sizes is clearly the result of a series of compromises. A major criterion has been to reduce the probability of an analytical failure during model development. Reductions in this probability can only be achieved by increasing the cost. The above sample sizes represent the best sample available within our cost constraints.

OP-RESEARCH
(RPO # 282)

August 21, 1974

Professor J. A. C. Brown
Institute of Economics and Statistics
University of Oxford
St. Cross Building
Manor Road
Oxford, OX1 3UL
England.

My dear Alan:

I have just returned from a two month home leave in India and I am now trying to catch up with the outstanding matters. One of these is the report of the Oxford Seminar. I shall be grateful if you can kindly let me have the draft in whatever shape or form it may be.

I hope that the joint paper by Professors Spraos and Maynard will be ready shortly. I have written to them reminding them of this commitment.

I attach a copy of our paper on prices forecasts which may be of interest to you.

With kind regards,

Yours sincerely,

Sh

Shamsher Singh
Chief,

Commodities & Export Projections Division
Economic Analysis & Projections Department

OP-RESEARCH
(RNO # 320)

Mr. Clell G. Harral

August 21, 1974

Edward P. Holland

Proposals for Surveys for the Traffic Restraint Study in Singapore.

1. As you will recall, we invited three firms to make proposals to us for conducting the household interview surveys, which are a primary part of our Traffic Restraint Study in Singapore:

- (a) Applied Research Corporation (ARC), a local university-related firm,
- (b) Wilbur Smith and Associates, who were the principal consultants for Phase I of the Singapore Mass Transit Study, and whose senior analyst, Bruno Wildermuth, is to work with us on other aspects of the Traffic Restraint Study,
- (c) Survey Research Singapore (SRS), a commercial survey firm that has been doing market research and other surveys in Singapore and is one of a group of survey firms in several Asian countries.

The two local firms were the only local ones we were aware of that seemed to have the capabilities required. Wilbur Smith appeared to us as a possibility because of their previous, related work in Singapore and the involvement of one of their staff members in the Restraint Study.

2. After our first discussion in Singapore, Applied Research Corporation made a preliminary cost estimate of S\$192,760 (-US\$80,316) for executing and processing the first survey. This was far above our own budget estimate. Upon going over their estimate with them, we were able to point out a number of items for which excessive allowances had been made, apparently in some instances because of uncertainty about how to do some parts of the job and in other instances because of inclusion of activities we did not believe necessary for our purposes. On the basis of our comments and suggestions, ARC prepared a new estimate which was used in their formal proposal, amounting to S\$139,100 (- US\$57,958). This, however, excludes development of a sample frame for the surveys.

3. Wilbur Smith and Associates were aware of the first cost estimates tendered by ARC and indicated to us that their costs would undoubtedly be far above those because they would have to bring in staff from outside on an expatriate basis. They did not feel it would be worth while for them to prepare a formal proposal since they were sure it would not be competitive.

4. Survey Research Singapore have submitted an estimate of S\$152,700 (+ US\$63,625) including development of a sample frame for the survey.

5. Peter Watson, Bruno Wildermuth, and I have evaluated the proposals

August 21, 1974

that were submitted by Applied Research Corporation and by Survey Research Singapore. As discussed with you, we have all concluded that the Survey Research Singapore proposal is superior, for the following reasons:

- (a) They already have, from their prior work in Singapore, a sample frame on which to base the household survey, whereas ARC would require that the IBRD provide such a frame. Such a frame could be developed from census data, but this would require additional time and cost.
- (b) Survey Research Singapore has a full-time management staff plus a permanent core group of 29 trained interviewers, which would be augmented by 33 part-time interviewers, including some who have been hired and trained for previous surveys. ARC, in contrast, would rely on faculty members for top-level guidance and students to do the interviewing. ARC indicated in discussions that they anticipate difficulties in recruiting capable middle-level operations managers and retaining students for the entire period. Most of the students would require training, and the ARC people expect a relatively high drop-out rate after they commence work.
- (c) Survey Research Singapore has had far more experience with household interviews than Applied Research. Their written proposal exhibits a much deeper understanding of the problems involved in this work than that of the other firm. This contrast was even more strongly evident in personal discussions with representatives of both firms by Wildermuth and myself.

6. The higher price quoted by SRS for the first survey (US\$5,667 more than the ARC estimate) is more than fully offset by the additional work that would fall on our shoulders in preparing a sample frame in the event that ARC were to be given the job, by the evident experience and professional capability of SRS's management, and by the availability in SRS of a trained core staff of interviewers.

7. Since the proposals were prepared, we have recognized the desirability of contracting for the follow-up survey at the same time as the initial survey and have recognized needs for adding to the tasks originally called for. Part of this has been covered in addenda to the original SRS proposal, but there is still a need for further discussion to clarify some items and for decisions on the exact content of the work to be done.

8. Recommended action: Survey Research Singapore is a competent, experienced firm that is ready to proceed with the job, while Applied Research Corporation would have to do a good bit of learning as they

Mr. Clell G. Harral

-3-

August 21, 1974

went along with uncertain results. I therefore recommend that we enter negotiations to finalize a contract with Survey Research Singapore. They should be asked to amend and refine their proposal, and extend it to encompass the additional tasks required.

EPH.

EPHolland:gbm

cc: Messrs. Peter L. Watson, Transport Research Division
Bruno Wildermuth, Wilbur Smith and Associates

OFFICE MEMORANDUM

OP-RESEARCH

TO: Mr. B. B. King, Research Adviser, VPD DATE: August 20, 1974

FROM: Ernest Stern, ^{ES} Director, Development Policy

SUBJECT: RPO 277: Financing the Development of Small-Scale Industries
Mr. Gulhati's Memorandum of August 13, 1974

This report seems to me a very good example of how little one can get for one's research funds if the research question(s) is not formulated in detail and if there is no agreement on methodology and data collection. The report is a reasonably well written statement on the desirability of supporting small-scale industries by people who were convinced of this before they set out and who, in the time available, gathered some anecdotal information to support their views.

We know no more than before, or than any research assistant could have dug up in Washington, about the contribution of small-scale industries to development; about the real costs of operating at different scales in different sectors; about the financial and manpower costs of successful programs, or even what the criteria for success are; about how, and what kind of, technology is transmitted in small-scale industry; about the costs of lending and how these might be reduced. Cooperatives get three paragraphs; industrial estates three pages saying there can be clients with different requirements.

The needs of the small-scale industrialists are discussed at length--but the list of woes is common knowledge.

There is no new data and no analysis--everything is descriptive.

The recommendations to the Bank are devoid of operational guidance--but perhaps none should be expected directly from a research study. But it is simply not useful to be told that we can either finance a small industry intermediary, or a special fund in a DFC or a special fund in a commercial bank or a "package" of services or combine these options in various proportions and be flexible.

I realize that the industrial sector is one of the most difficult in which to formulate research proposals with broad policy content. That means much more careful review of methodology and work plans for future proposals. It also means, it seems to me, much more attention to scale and time. With more time and money, it might have been possible to develop data to support, modify or eliminate some propositions and provide some guidance to the operators--complex issues cannot be dealt with meaningfully by brief visits of itinerant researchers.

cc: Mr. Gulhati

OFFICE MEMORANDUM

DPS - RESEARCH
(RMO# 289)

TO: Mr. Colin Bruce

DATE: August 20, 1974

FROM: G. F. Donaldson *G.F.D.*SUBJECT: Back to Office Report - Mission to Yugoslavia, Egypt, and Pakistan,
June 30 - July 21, 1974.

1. In keeping with my terms of reference I visited Yugoslavia, and Egypt in connection with the Study of Strategies for Smallholder Development, and Pakistan to participate in the UNDP supported Policy Study on Farm Mechanization and Farm Equipment and Tool Production Based on Considerations for Increased Employment.
2. Yugoslavia. In Belgrade, I was accompanied by Mr. Peter Hazell of DPS/DRC, and Mr. Raymond Rogers, consultant on the Yugoslav case study of smallholder strategies. During our visit, we concluded the field work for this study; the remaining analysis and report writing will be done in Washington. The data tabulation and statistical analysis has been completed in full by the Institute of Agricultural Economics, though the cost was higher than expected due to the Yugoslav insistence that no basic data should be taken out of the country and local computing services being more expensive than using the Bank-Fund facilities.
3. Mr. Rogers withdrew from the study as of July 6, 1974 to take up full time employment in another vocation. This was a relatively convenient break, since Rogers had done all of the field work prescribed, and he would have been much less useful in the remaining stages. His departure does create a problem in final interpretation, but the Institute has agreed to allow Mr. Slobodon Merić, their Deputy Director, to come to Washington to assist in the later stages. He has been Rogers' counterpart in the work in Belgrade.
4. A status report on this study is being prepared for the Research Committee. It is now expected that we will be able to complete the study within the original budget.
5. Egypt. In Cairo I was also accompanied by Mr. Peter Hazell of DPS/DRC. Our purpose was to assess the possibilities for a second case study of smallholder strategies based on Egyptian experience. We had discussions with a number of government officials and university staff.
6. The reforms that have embodied the Egyptian strategy have been far reaching and broadly successful, as reflected in the increases in output that have occurred over the past decade. The extent of the related institutional changes is suggested by the fact that there have been some 140 pieces of legislation passed regarding agrarian reform in the past 15 years. Although the approach may leave something to be desired, especially in respect of the somewhat heavy hand of government staffed "cooperatives", the important point is that they have nevertheless created the conditions necessary for effective smallholder participation on a broad scale.

7. No formal evaluation has been made of the various programs either separately or collectively. Further, neither the changes within the small-farm sector or the nature of the reforms have been documented in any thorough or analytical way. Since they appear to have been quite successful, the Egyptian experience could provide a worthwhile case study. It fits in well as a case to follow the Land Reform Policy Paper since many of the issues raised in it have been encountered in Egypt. The officials we met saw no impediment in the way of such a study and several were enthusiastic about the idea, (including Saad Hagrass, Chairman of the Land Reform Authority, Mahmoud Fawsy, Chairman of the Cooperative Organization, and Salah El Abd, Chairman of Land Reclamation and Development).

8. Such a study will have to be approached in two stages. First, it will be necessary to document the program elements of each of the sub-programs for the "old lands", "new lands" (reclaimed and newly irrigated) and the "land reform" (former royal estates) areas, and to identify the impact and implications of these elements. This might best be done by a 4-5 man mission working for, say, three months. One member would need to be an Egyptian. The study could perhaps take the form of a sector review mission. Second, based on the original review, a research study could be formulated to evaluate the impact of the program. One possibility would be a multi-disciplinary study to examine the micro-responses of individual farmers to macro policy measures, including behavioral aspects. No worthwhile research project can be formulated with our current limited knowledge.

9. Pakistan. In Islamabad, I worked with Dr. Horst Geuting, FAO Representative and members of the Ministry of Agriculture and the Planning Commission in preparation for a project document for a UNDP supported "Policy Study on Farm Mechanization and Farm Equipment and Tool Production Based on Considerations for Increased Employment". Copies of the draft document are available.

cc: Messrs. van der Tak
Yudelman
Burney
Lee
Raizen
Horseley
Davar
Armstrong
Christoffersen
Dubey
Haynes
Yoon
Osgood
Alsegaf
Collier
Hazell
D.C. Rao
Files

LI-W.H.O.
✓ CC: OP-RESEARCH

August 20, 1974

Mr. J.M.G. van Damme
Manager
WHO International Reference Center
for Community Water Supply
13 Parkweg
THE HAGUE
The Netherlands

Dear Mr. van Damme:

Thank you for your letter 6656/vD of August 9, 1974 addressed to Mr. Shipman concerning the proposed research project on water dispensing devices. Unfortunately, Mr. Shipman had already left for the Brighton conference before your letter arrived, but I trust you will be able to discuss the project fully with him when you meet this week.

Very truly yours,

Richard N. Middleton
for
Harold R. Shipman
Water Supply Advisor
Public Utilities Department

RNMiddleton:cfa

cc: Mr. Shipman (with incoming letter)
Central Files (RPØ 312)

OP-RESEARCH
(APO # 276)

Mr. Yves Rovani

August 19, 1974

M Lane
M. Lane and S. Littlechild (Consultant)

COSTA RICA - Supervision Mission
Back-to-Office Report

In accordance with our Terms of Reference dated July 3, 1974, we arrived in San Jose on August 4 and met with Marco V. Tristan, Director of the Rural Telephone Research Program. During the four days August 5-8 we reviewed with him the detailed progress of the research program and in particular the results of the users pilot survey. We recommended certain further lines of analysis and agreed with him a timetable for future activities. An extensive report of the research status is attached. *AUG 19, 1974 (FILED SEPARATELY BEHIND MDEN FILE)*

On August 6 we met with Mr. Antonio F. Canas, Manager of ICE who expressed his satisfaction with the intent of the study. He stated that he would find it useful to have some preliminary results before the beginning of October, and we have accommodated this request in the timetable outlined below. We also expressed our thanks (and those of Marco Tristan) for the cooperation and support that ICE has provided for the conduct of the study so far.

cc: Mr. Warford
Mr. Vasudevan

Attachments

MLane:pjk

OP-RESEARCH
(RPO 4320)

August 19, 1974

Mr. David Ryman,
Llewelyn-Davis, Weeks,
Forestier-Walker and Bor,
4, Fitzroy Square,
London, W1
England

Dear David:

As you will have noticed from the letter-head, I am now at the World Bank. I have taken a year's leave of absence from Northwestern, mainly to work on a traffic restraint experiment. The Government of Singapore has decided to introduce a package of area licenses and high parking charges for the central area, and the Bank has a research project to monitor and evaluate the experiment. We are attempting to evaluate the affects of the scheme on transport system performance, travel patterns and behavior, and the environment. In terms of the environment we are particularly concerned with the questions of air pollution and noise, together with pedestrian movements and conflicts. The government's objective is to remove 50% of cars during the peak hours, which should lead to sizeable benefits.


I have read your Kuala Lumpur work and I wonder if you could possibly send me some background references on the measurement of air pollution and noise, and measurements of pedestrian mobility and safety. As the project is also under the auspices of the U.N.E.P., we hope to be able to develop a significant program of environmental impact measurement. Any material, ideas, or comments will be gratefully received.

Please give our regards to Danny and be sure to drop in on us if you visit the U.S. ("Us" will be three in early September). Formally, we would also like to talk to you in the Bank about your ideas on environmental impact evaluation.

Yours sincerely,

Peter L. Watson
Transport Research Division
Transportation and Urban Projects Department

P.S. Please give my regards to Walter Bor.

PLWatson:mcp 

OP-RESEARCH
(CRP 276)

August 16, 1974

Mr. Antonio F. Canas
Instituto Costarricense de
Electricidad
Apartado 10032
San Jose
Costa Rica

Dear Mr. Canas:

It was very good of you to take the time to see us on August 6.
We enjoyed our discussions with you very much indeed.

Following our meeting, we agreed with Marco V. Tristan that
it would be desirable to produce an interim report on the study by
the beginning of October. We hope to present this report to you as
soon as it is ready. If they can be made available, it would be
useful for the purposes of this report to see the results of the
preliminary studies on isolated phones which you referred to. This
can then be used to establish the specific pieces of data that
interest you. We have asked Marco Tristan to get in touch with you
about this.

I Hope these proposals meet with your approval.

With many thanks.

Yours sincerely,

Morton Lane
Public Utilities Department

cc: Mr. Tristan

MLane:pjk

OP-RESEARCH
(RPO # 276)

August 16, 1974

Mr. Marco V. Tristan
Director
Escuela de Ciencias Economicas y
Sociales
Instituto de Investigaciones
Costa Rica

Dear Marco:

Further to our visit last week, August 5-9 Professor Littlechild and I have put together some notes confirming and summarizing some points of our discussion. These are enclosed: *NOT ATTACHED*

- (1) Details of our agreed timetable
- (2) Notes on the calculation of consumers' surplus
- (3) Notes on other aspects of the research

I also enclose a copy of my recent letter to Mr. Canas informing him of the new arrangements.

We hope these are of help to you, but should you have any further inquiries please send them with the revised questionnaire at the end of this month. Prof. Littlechild and I will try to answer them at that time.

We will also try to send you a copy of the Kavanagh, Smith paper as soon as it is available. This may help clarify some aspects of the "expenditure" approach.

As we left San Jose we noticed advertisements in one of the local (English) newsheets at the hotel which urged telephone callers to make calls via the operator. This seemed to us to underline Mr. Canas' contention that ICE will in the future be encouraging labor intensive versus capital intensive expansion. However, we find that the paper was lost on our return journey. Do you think that you could do us the favor of obtaining a copy of this advertisement for our files? It would be very helpful.

Many thanks for your help and we look forward to hearing from you again shortly.

Morton Lane

P.S. We have still not located the expenses form that you submitted to the Bank for your England trip. Can you therefore send me another copy as soon as possible. Please send this (and other future receipts, invoices etc.) to the Public Utilities Department.

ML
MLane:pjk

INCOMING GABLE

NO P. RESEARCH
(R10#320)

CC: LE-UN

RECEIVED

WUI0012 LNL387

UWVA HL KESI 041

NAIROBI 41/40 15 1240

Aug. 15, 1974

Aug 15 3 18 PM 1974

COMMUNICATIONS
SECTION

Distribution:

Mr. Jaycox
Mr. Husain
Mr. Hornstein

LT

INTBAFRAD

WASHINGTONDCUSA

MISC 1123 FOR DUNKERLEY FROM BERTHOUD FURTHER SANCHEZS
LETTER 18 JULY PLEASED ADVISE UNEP AGREED
CONTRIBUTE DOLLARS 55,800 TO [IBRD STUDY OF TRAFFIC
RESTRAINT SINGAPORE] PLEASE SUBMIT DRAFT PROJECT
DOCUMENT FOR UNEP CONSIDERATION SOONEST
WRITING

UNITERRA NAIROBI

CFM 1123 18 55,800 IBRD

WORLD BANK GROUP

ROUTING SLIP

DATE

AUG 30, 1974

NAME

ROOM NO.

(1)

MR D. C. RAO

F-1233

(2) Records Station Classifier
Mr. C. Ziegler

F-244

APPROPRIATE DISPOSITION

NOTE AND RETURN

APPROVAL

NOTE AND SEND ON

COMMENT

PER OUR CONVERSATION

FOR ACTION

PER YOUR REQUEST

INFORMATION

PREPARE REPLY

INITIAL

RECOMMENDATION

NOTE AND FILE

SIGNATURE

RE MKS

Will you please:

initial the attached to indicate that it has been released for filing.

indicate the organization, study, meeting, project to which it refers

forward attachment

*Attachment is confidential -
not for filing*

FROM
Bank Administration & Policy

ROOM NO.
F-244

EXTENSION
2454

Those Listed Below

August 15, 1974

D. C. Rao, VPD

Takayama Research Proposal for
Agricultural Commodity Model

NOT ATTACHED

This is to invite you to a meeting in early September to discuss the attached research proposal with Professor Takayama. The precise date and time will be communicated to you in due course.

The attached proposal is a front runner in the Ford Foundation's "International Economic Order" Competition. However, because this proposal alone would require a large slice of their entire budget, Ford Foundation has asked if the Bank will help finance this research project. We are now considering whether we might do so from the President's contingency fund.

Professor Takayama has agreed to come to Washington to discuss the research proposal with a small group of interested Bank staff. The purpose of such a meeting would be to evaluate the proposal more fully and explore the possibilities of a collaborative effort.

I hope you will be able to participate in this discussion. Your written comments will also be appreciated.

Attachment

Distribution:

Messrs. Balassa, Bruce, Darnell, Duloy, Koffsky, Krishna,
Lowenstein, Singh, Stoutjesdijk, Waalbroeck

cc: Messrs. Chenery, King, Gulhati, Tims

DCRao/lm

OP RESEARCH
(RESEARCH IN STATES SERVICES HOUSING)

August 15, 1974

Professor Horacio Caminos
Urban Settlement Design Group
77 Massachusetts Avenue, E21-306
Cambridge, Massachusetts 02139

Dear Professor Caminos:

Enclosed herewith are draft terms of reference and background papers to be used for preliminary discussions on the proposed research. I would like to emphasize that there are very much in draft stage and were prepared on the basis of what the Bank would like to see included in the research. The finalized terms of reference and contents of the research will of course be derived jointly with you.

As agreed, we shall be in Cambridge on Thursday and Friday of next week (August 22, 23), for discussion of the context, timing, and administrative details of this project. We hope that, on the basis of the work of these two days, we will be able to present to our colleagues in the Bank a clear outline of the work program, as provisionally agreed between us, for their final comments and suggestions.

We would welcome any comments on the enclosed working drafts which you might like to write or phone to us before our meeting next Thursday.

With best regards.

Yours sincerely,

George J. Beier
Economist
Transportation and Urban
Projects Department

Enclosures

GJB
GJBeier:rm

INCOMING CABLE

OP-RESEARCH
(RPO#320)

Distribution:

Mr. Harral
Mr. Jaycox
Mr. Helmers

INTFRAD 64145

WUI NYK

WUI8 PWA674 SINGAPORE 36 15 1641

Aug. 15, 1974

CLELL HARRAL INTBAFRAD
WASHINGTONDC

Aug 15 8 47 AM 1974
COMMUNICATIONS
SECTION

ARC CAN RESCHEDULE SURVEY TIMETABLE FOR TRAFFIC
RESTRAINT STUDY

(SINGAPORE) STOP CHENGTONGFATT INFORMED IBRD RESEARCH COMMITTEE
APPROVED BUDGET FOR STUDY STOP APPRECIATE ARC
PROPOSAL MEETS YOUR APPROVAL

WANSHOUNGFAN APPLIED RESEARCH CORPORATION

OP-RESEARCH
(R10#320)

August 14, 1974

Alan G. Wilson,
Professor of Urban and
Regional Geography,
Department of Geography,
University of Leeds,
Leeds
England

Dear Professor Wilson:

I have recently joined the World Bank and am working on a Traffic Restraint Experiment in Singapore. One of our objectives is to use this opportunity to collect a data set to be used as a basis for making improvements to current transportation planning practice. I am particularly interested in the joint distribution/modal split modelling work that I understand you carried out in conjunction with the SELNEC study. I would be grateful if you would send me any available documentation on this work.

If the SELNEC work is on-going, could you also advise me as to whom I should contact to obtain up-to-date information on their current modelling procedure.

I plan to visit England during the coming year, and I hope that I will be able to get together with you to discuss both your work and ours.

Yours sincerely,

Peter L. Watson
Transport Research Division
Transportation and Urban Projects Department



PLWatson:mcp

01-RESEARCH
(RAO #370)

August 14, 1974

Mr. David Bayliss,
Chief Transport Planner,
Department of Planning
and Transportation,
Room 593
The County Hall
London SE1 7PB
England

Dear David:

As you will see from the letter-head, I have joined the World Bank. I am on a leave of absence from Northwestern for the 1974-5 academic year. My primary work area is the Singapore Traffic Restraint Study and the opportunities for demand modelling that arise from the study. We are attempting to modify and improve the standard travel demand forecasting models at many levels: generation, distribution, modal split. At the moment, I am trying to establish the status quo and I am rather out of touch with recent English developments.

Perhaps you would be kind enough to send me some documentation on the models currently being used by the G.L.C.. I am especially interested in the distribution/mode split part of the package.

I have also seen a few research memoranda from G.L.C. Planning and Transportation. Could you possibly send me a list of available titles and arrange for us to be kept informed of new releases?

As I learn more about recent modelling developments, I hope that we will be able to get together with you and other English researchers for a seminar on this topic. (I think you have already discussed this with Ed Holland)

I greatly enjoyed working with you during the restraint seminar and I look forward to the opportunity of further cooperation.

Yours sincerely,



PLWatson:mcp

Peter L. Watson
Transport Research Division
Transportation and Urban Projects Department

OFFICE MEMORANDUM

OP-RESEARCH

TO:
FROM:
SUBJECT:

Mr. Benajmin King, Research Advisor, VPD

DATE: August 13, 1974

Ravi Gulhati, ECDDR *RG*RPO 277: Financing the Development of Small-Scale Industries*(See box 277)*

1. Enclosed is the final report of the Economics of Industry Division research project "Financing Small-Scale Industries" (RPO 277-The Kochav Report). The project was a collaborative effort undertaken with the Swedish International Development Authority. Eight country annexes are attached: three of these by SIDA consultants are submitted without revision.
2. The project's aims were to:
 - ascertain how reputedly successful small-scale industry finance programs operate
 - study the experience of cooperatives and industrial estates
 - evaluate technical assistance programs
 - recommend appropriate measures for the IBRD and other donors
 - assess role of small industry in countries studied
3. Field work carried out under this research project has confirmed much of the diagnosis of small industry problems contained in an earlier Bank document, "Small Enterprises in Manufacturing: The Emerging Issues" (PRC/M/73-10). The new case studies fortify conclusions derived from earlier Bank mission reports and other relevant literature that government policy discriminates against small-scale industry and that modern financial institutions find it unprofitable to accommodate new and small entrepreneurs.
4. The case studies describe a number of special financial and technical assistance programs for small establishments. It has not been possible to analyze quantitatively either the characteristics or the consequences of these programs. Although the terms of reference visualized estimating coefficients such as administrative costs, spread requirements, rate of arrears or default, etc. the unavailability of statistics prevented this from being done. It was not even possible to establish precisely who were the beneficiaries of these small industry institutions. The report concludes that these programs "...have met with some limited success."
5. Past experience, the report says, is of little help in designing effective small industry promotional efforts. There are no model institutions or programs which can be studied and replicated elsewhere with suitable modifications. Nevertheless, the research team puts forward a set of recommendations on the basis of general principles and its field observations as well as interviews with relevant officials.

August 13, 1974

We hope that these proposals will be of some assistance to the Bank's operational departments who have had opportunities of commenting on the terms of reference of RPO 277 at a seminar in October 1973 and on a draft report at another seminar in May 1974. Copies of the present report have been sent to a group of Bank staff.

Attachments: Kochav Report and 8
Country Annexes

cc with Kochav Report only: Messrs. Chenery, VPD
(call x-2251 for country
annexes, if needed)

Messrs. Stern, VPD
Haq, EPRDR
Tims, EPDDR
Duloy, DRCDR
Krishna, ECDDR
Mrs. Hughes, ECDDR
ECD Division Chiefs

OP # 465,000 #
(KPO # 276)

yellow

August 13, 1974

Lic. Marco V. Tristan
Director
Escuela De Ciencias Economicas y
Sociales,
Instituto de Investigaciones,
Costa Rica

Dear Marco:

Further to our conversation concerning payments to the University of Costa Rica for the research program, it appears that there has been some misunderstanding. The Bank usually requires an invoice or bill before it will make payment. Since no invoices have been received, payments, originally planned at the end of Stages II and III, have not been made.

Since there have been some changes in the schedule of the research program, I now propose payments in the following manner:

- (i) Payment of \$5,475 on receipt of an invoice, justified by the reports dated January 29 and May 21, 1974 which the Bank has already received.
- (ii) Payment of \$5,475 on receipt of an invoice to be submitted with the Interim Report, and to be received by the Bank before September 23, 1974. This interim report was agreed during our recent visit (August 5-9) and is included in the revised timetable.
- (iii) Final payment of \$5,475 on completion of the study and receipt of the Final Report December 31, 1974.

Operationally we will make the first payment to you as soon as we receive an invoice. If urgent payment is required this bill may be cabled to us. I hope this meets with your approval and sorts out the misunderstanding that had arisen.

Many thanks for your hospitality on our recent visit, we will be writing separately about this in the next few days.

Yours sincerely,

Morton Lane
Public Utilities Department

MLane:pjk

cc: Mr. Warford
Miss Lenthe
Miss Peter

OP RESEARCH
(CRP # 320)

August 13, 1974

Mr. David Quarby
Director of Operations
Research
London Transport Executive
Transad House
Leicester Square Station
London WC. 2
England

Dear David:

As you will see from the letter-head, I have joined the World Bank. I am on a leave of absence from Northwestern for the 1974-5 academic year. My primary work area is the Singapore Traffic Restraint Study and the opportunities for demand modelling that arise from the study. We are attempting to modify and improve the standard travel demand forecasting models at many levels: generation, distribution, modal split. At the moment, I am trying to establish the status quo and I am rather out of touch with recent English developments. I understand that you and Peter MacIntosh did some work on joint distribution/mode split models (possibly with Wilson at Leeds?) Is this so? If so, could you please send me any background materials that you feel might be useful. I am also writing to David Bayliss and Alan Wilson; do you know of anyone else that I should be in touch with?

I was sorry that we were not able to get together on my last visit to London; I enjoyed our telephone conversation and appreciated your advice. I hope that we will be able to get in touch next time one or other of us crosses the Atlantic (if you would like to submit a paper to the Transportation (ex-Highway Research Board for next January, let me know).

I have no doubt that you are enjoying your new and multiple responsibilities. I hope that they are proving to be challenging.

Evelyn sends her best wishes. (She is currently very pregnant!)

Yours sincerely,


PLWatson:mcp

Peter L. Watson
Transport Research Division
Transportation & Urban Projects Department

OP RESEARCH
(RPO # 297)

Mr. R. Gulhati, ECDDR

August 13, 1974

D.C. Rao, VPD *GR*

RPO 297: Urban and Regional Subsystems in Peninsular Malaysia

This is to confirm that Mr. Stern has approved an allocation of \$900 for RPO 297 for FY'75, as requested in your memorandum of August 13th.

c.c. Messrs. Keare, ECDRB
English, ECDRB
King, VPD
Mrs. Cohen, ECDRB

DCRao/kyw

OP-RESEARCH
(RPO# 307)

Mr. L. Westphal, ECDND

August 12, 1974

D.C. Rao, VPD *DR*

CAMS RPO 307

I refer to Mrs. Hughes' memorandum of August 6th of which you have a copy. Mrs. Hughes has since appointed you the 'supervisor' for this project. Mr. Stern's memorandum to Mr. Gulhati, of August 9th, will confirm that the Research Committee has made an allocation of \$25,000 for CAMS.

Could you please go ahead and draw up the necessary contracts etc as for any other research project.

c.c. M. Leiserson
H. Hughes

DCR/kyw

OP-RESEARCH

Mr. K. M. Thint, Chief, LCPED

August 12, 1974

Andreas Tsantis, Dep. Chief, LCPED

ECUADOR: Research Proposal

This is a note on Mr. Selowsky's reply to our memo on the research proposal for Ecuador.

There is evidently a basic disagreement on what research the Bank should support. We are an operational institution and I feel that our research staff should undertake research which only has direct operational implications for our work.

I never raised the question of competitiveness of the content of the Ecuador study with that by ECIEL. Given the availability of research funds, I referred in my memo to the possible competitiveness of the two proposals for Bank fund allocations. In that case, I said, we would "support the ECIEL proposal because we can choose the country for which we want the research to be carried out and therefore orient the research towards our operational needs." Despite the personal doubts of Mr. Selowsky that we can influence the choice of countries we now have a memo of Mr. Jallade of OPS that confirms our point. Mr. Jallade attended last month an ECIEL meeting and based on his conversations during that meeting he has suggested that we select one or two countries which can be included in the ECIEL research proposal to the Bank and could be submitted to the Bank's Research Committee in September.

ATsantis:mp

cc: Messrs. Avramovic (LCNVP), King, Rao (VPSVP), Selowsky (DEC1D),
Pfefferman (LC1DR)

OP-RESEARCH
August 12, 1974

Dr. Marin Maydon
Subdirector
Direccion General Coordinadora de
la Programacion Economica y Social
Secretaria de la Presidencia
Palacio Nacional
Mexico 1, D. F.

Dear Marin:

Further to our telephone conversation last week this is to confirm that we remain interested in exploring the possibility of a research project concerned with aspects of industrial decentralization, and would like to hear from you further on the subject. However, there is, under present circumstances no guarantee that the project could be approved this year and it is even uncertain when, due to a shortage of funds, the Research Committee could consider the project. Given this, and in view of your concern not to enter a compromising agreement with consultant firms in Mexico under conditions of uncertainty, I will advise you when the outlook becomes more favorable so that you can act accordingly.

Sincerely,



Ian Scott
Country Programs Division
Latin America and the Caribbean
Regional Office

IScott:dpl

LI-ILO
C-62-UNDP
✓ C-62-RESEARCH

INT/74/022

August 9, 1974

Mr. William T. Mashler
Director
Division for Global and Interregional Projects
United Nations Development Programme
866 United Nations Plaza
New York, New York 10017

Dear Mr. Mashler:

INTERREGIONAL: Planning and Administration of
Special Public Works Schemes

Reference is made to your letter of June 26 regarding the ILO proposal for the project referred to above.

The focus of the proposal is the use of labor intensive methods in public works schemes. As you know, this topic has been the subject of research by (or with the support of) the World Bank, some of which has already been published^{1/}. Some research currently underway at Harvard University^{2/} (supported by the Bank) is particularly relevant in that it addresses many of the issues identified in the ILO proposal. ILO is informed of these research activities.

The studies referred to in footnote 1 below concern the technical possibilities and the engineering economics of alternative techniques for trunk road construction. This work indicates that the labor-intensive technologies presently used in such schemes may involve extensive economic waste; development of more efficient labor-intensive and intermediate technologies is the major focus of future phases of this Bank study. We recognize, however, that these investigations relate primarily to only one aspect of public works and concern only one of a number of important issues in this area. Other issues also need

1/
Substitutions of Labor for Capital in Civil Construction, Final Report, Phase I (October 1971); Substitution of Labor and Equipment in Civil Construction, Final Report, Phase II (January 1974).

2/
Harvard Institute for International Development; John Thomas, Project Leader.

examination. Thus, we are supporting the Harvard studies and for the same reason we would endorse, in principle, UNDP's support of efforts by the ILO to improve the planning, administration, and performance of labor intensive programs within developing countries. However, we have misgivings about the emphasis and design of the present proposal.

While termed an "action-oriented research project", the project appears to be more of a technical assistance effort to increase the capacity for planning and implementing public works schemes. Hence, it would be inappropriate to evaluate the project primarily in terms of its "research" component and relative to the normal expectations of research objectives and methodology. Nevertheless, the results of the proposed research within the "interested" countries are likely to be uneven, and the discussions within the succeeding technical meetings are unlikely to produce much beyond fairly obvious generalizations. In fact, the list of themes suggest that much of this research effort will be overtaken by work elsewhere, such as the Harvard Studies referred to already.

Several findings which are emerging from the Harvard Study and from work in the Bank are relevant to the design of the ILO project. (1) Given the great variety in physical, economic, social and political environments, a public works program should be uniquely designed for its own setting. Uncritical extensions from any single country's experience are to be avoided, and any "Manual of guidelines on the organization of labor-intensive public works programmes" should not be a "cookbook". (2) The marginal returns to research on past programs diminish rapidly. Reliable data are extremely limited; program information is usually highly aggregative and frequently suspect, and rarely are the necessary detailed data available for a good estimate of the actual performance and benefits of a program. Prospects for research undertaken in conjunction with a prospective or on-going program would seem to be more promising.

Given the objectives of this proposal, there is an important role for sharing experiences among the countries which have undertaken public works programs. But the specific arrangements described for Stage I and II in the Work Plan seem to be an inefficient approach. We wonder about the desirability of launching the project by initially diffusing "research" efforts over a large number of countries. We would see merit in beginning the first preparatory stage with a few seminars, within selected countries which have had substantial experience with public works programs. Part of this preparation could be careful analytical review papers concentrating on one country's experience (perhaps India within Asia) or a few countries where there are similarities in programs (perhaps Morocco and Tunisia). The ILO project resources could thus be concentrated on assistance to a more manageable number of countries.

With this background consideration might then focus on the potential for integrating research with the improvement of planning and implementation of public works schemes. An approach that could yield useful new results might be to have a country planning a major public works scheme undertake serious benchmark surveys;

August 9, 1974

those countries seriously concerned with the improvement of their continuing programs might undertake intensive evaluation studies. As noted above, much better and more detailed data could be obtained in this way than is available from retrospective studies. Fulfillment of this potential will require much more concentration of resources than in the proposed ILO project. Among "interested" countries, there are certain to be varying degrees of active and passive interest. The ILO might well concentrate initially its supporting resources in one or two countries which were seriously committed to intensive study and evaluation. ILO assistance could be critical in mobilizing the minimum effort necessary for responsible and effective policy guidance. Individuals from less actively "interested" countries might be accommodated as observers or participants in those intensive efforts.

An important element undeveloped in the present work plan is the improvement of planning and implementation of public works schemes at the project execution level where we feel there are many problems worth researching. How should large labor-intensive civil construction projects be organized? If, as is generally believed, it is necessary to break up projects into several small projects in order to employ labor, what type of project organization is called for? How can such decentralized projects be managed? etc. While we will be attempting to examine some of these issues in our studies, many questions will remain unanswered and a concentrated effort in this area could be useful. We find it unfortunate that the scope of work proposed for this ILO study would not address these issues to any depth.

In summary, the objectives of the ILO project are important and worthy of support. However, the present work plan is probably too broadly encompassing and too diffuse for efficient use of the resources which are being requested with the result that excellent opportunity for integrating research with the preparation for, and/or the evaluation of, public works programs may be neglected.

Finally, if UNDP/ILO decide to proceed with a study, re-formulated along these lines indicated above, the Bank would very much like to keep abreast of the study's progress. In its financing of rural development projects already undertaken or under consideration, the Bank is substantially involved in employment-oriented rural works

...../8

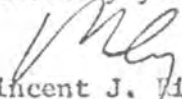
Mr. William T. Mashler

- 4 -

August 9, 1974

programs. We would thus see mutual advantages in ILO and the Bank keeping in touch on this project. UNDP may wish to suggest this to ILO.

Sincerely yours,



Vincent J. Riley
Chief, Technical Assistance Division
International Relations Department

cc: Mr. L. Enmerij
Chief of Department
Employment Planning and Promotion
Department
International Labor Organization
154, rue de Lausanne
Geneva, Switzerland

Mr. G. Weaver
Special Assistant to the Director-General
International Labour Office
666 11th Street, N.W.
Washington, D.C. 20001

cc: Messrs. Hofmeister (Development Economics)
Christoffersen/Schumacher (Agri. and Rural Development)
Leiserson (Agri. and Rural Development)
Jaycox (Transportation and Urban Projects)
Harral/Sud (Transportation and Urban Projects)

VJRiley/eb

OFFICE MEMORANDUM

TO: Mr. R. Gulhati, ECD

FROM: Ernest Stern, VPD

SUBJECT: Research Budget Allocations for FY75

DATE: August 9, 1974

Further to my memorandum of June 21, the attached table shows the revised financial allocations for FY75. Other projects in your department that do not appear on the table do not have any authorization for FY75. However, you should continue to submit quarterly status reports for all projects until the results of the research have been finally reported on.

Attachment

cc: Messrs. B.King/D.C.Rao
P. Smith
Mrs. M. Hazzah

<u>RPO</u> <u>No.</u>	<u>Title</u>	<u>Revised</u> <u>Financial</u> <u>Allocation</u> <u>FY75 (\$'000)</u>
<u>Urban and Regional Economics</u>		
270	Urban Public Financing and Administration	1.9
290	Labor Market in a Rapidly Growing Economy	4.1
318	Pricing & Financing of Urban Public Services: Water Supply & Sewage Disposal	35.0
<u>Industry</u>		
295	Industrial Capacity Utilization in Malaysia	6.8
305	Patterns of Industrial Development	20.0
307	CAMS	25.0
<u>Public and Private Finance</u>		
296	Distributive Impact of Public Expenditures	77.0
304	Rural Saving and Investment	12.0
<u>Population and Human Resources</u>		
291	Benefits of Schooling for Workers	10.0
299	Economic Aspects of Household Fertility Behavior and Labor Supply in Northeast Brazil	50.4
302	Population Growth & Rural Poverty	22.0
303	Maximizing Usefulness of Household Surveys	17.5
319	Economic Development & Educational Reform	14.0
<u>Employment and Rural Development</u>		
243	Labor Market in Malaysia	20.3
245	Labor Force Participation - Income & Unemployment	36.6
275	Rural & Urban Public Works	52.0
280	Land Reform in Latin America	11.3
306	Employment Models and Projections	40.0

Yellow

OFFICE MEMORANDUM

TO: Mr. Edward V. K. Jaycox, TRU

FROM: Ernest Stern, VPD

SUBJECT: Research Budget Allocations for FY75

DATE: August 9, 1974

Further to my memorandum of June 21, the attached table shows the revised financial allocations for FY75. Other projects in your department that do not appear on the table do not have any authorization for FY75. However, you should continue to submit quarterly status reports for all projects until the results of the research have been finally reported on.

Attachment

cc: Messrs. B.King/D.C.Rao
P. Smith
Mrs. M. Hazzah

<u>RPO NO.</u>	<u>Title</u>	<u>Revised FY75 Allocation (\$'000)</u>
226	Substitution of Labor & Equipment in Civil Works	150.0
227	Highway Design Study, Phase II	*
229	Yemen Arab Republic Feeder Road Study	*
313	Economics of Containerization	20.0
314	Malagasy Feeder Road	32.0
315	Effects of Health & Nutrition Standards on Worker Productivity	35.0
316	Urbanization Standards for Site & Services Projects	50.0
320	Urban Traffic Restraint (Singapore)	110.0

*
To be finalized

August 9, 1974

OP-RESEARCH

Yellow

INTERNATIONAL DEVELOPMENT
ASSOCIATION

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE
CORPORATION

OFFICE MEMORANDUM

TO: Mr. J. Duloy, DRC

DATE: August 9, 1974

FROM: Ernest Stern, VPD

SUBJECT: Research Budget Allocations for FY75

Further to my memorandum of June 21, the attached table shows the revised financial allocations for FY75. Other projects in your department that do not appear on the table do not have any authorization for FY75. However, you should continue to submit quarterly status reports for all projects until the results of the research have been finally reported on.

Attachment

cc: Messrs. B.King/D.C.Rao
P. Smith
Mrs. M. Hazzah

<u>RPO NO.</u>	<u>Title</u>	<u>Revised FY75 Allocation (\$'000)</u>
203	Patterns of Demand and Savings in the Development Process	22.5
206	Short-run and Long-run Influences upon Income Distribution	20.0
208	Project Appraisal and Shadow Prices	26.0
216	Agricultural Sector in Mexico	10.5
223	Scope for Capital-Labor Substitution in the Mechanical Engineering Industry	13.9
224	Programming in the Manufacturing Sector	*
269	Growth and Income Distribution in Brazil	25.0
273	Rural Development in Northeast Brazil	97.2
283	Evaluation of Latin American Data on Income Distribution	41.5
284	Growth Employment and Size Distribution of Income	75.2
285	Urban Income Distribution in Latin America	88.0
286	Prototype Models for Country Analysis	50.0
287	Industrial Policies and Economic Integration in West Africa	54.5
294	Employment and Income Distribution in Malaysia	31.0
308	Evaluation of Asian Data on Income Distribution	39.5
309	World Commodity Models	25.0
317	The Analytics of Change in Rural Communities	57.0

*To be finalized.

August 9, 1974

OP-RESEARCH
(RPO# 225)

Mr. F. Moore, Industrial Projects Dept.

August 9, 1974

Ernest Stern, VPD

Research Budget Allocation

This is to confirm that the research project "Industrial Capacity Utilization" (RPO 225) will not have any financial allocation for FY75. The amount of \$12,500 accrued to the FY74 budget will cover the final payment on this project.

cc: Messrs. B. King/D.C. Rao
Mrs. M. Hazzah
Mr. P. Smith

DCRao:gm

OFFICE MEMORANDUM

TO: Mr. Y. Rovani, Public Utilities Dept. DATE: August 9, 1974
FROM: Ernest Stern, VPD
SUBJECT: Research Budget Allocations for FY75

Further to my memorandum of June 21, the attached table shows the revised financial allocations for FY75. Other projects in your department that do not appear on the table do not have any authorization for FY75. However, you should continue to submit quarterly status reports for all projects until the results of the research have been finally reported on. ✓

Attachment

cc: Messrs. B.King/D.C.Rao
P. Smith
Mrs. M. Hazzah

<u>RPO NO.</u>	<u>Title</u>	<u>Revised FY75 Allocation (\$'000)</u>
238	Analysis of Problems and Issues in Village Electrification	13.0
239	Pricing & Investment in Electricity Supply	7.0
276	Pricing & Investment in Telecommunications	13.0
311	Public Utility Pricing & Investment	30.0
312	Reduction in Waste Water	20.0

August 9, 1974

OP-RESEARCH

Yellen

INTERNATIONAL DEVELOPMENT
ASSOCIATION

INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL FINANCE
CORPORATION

OFFICE MEMORANDUM

TO: Mr. D. Ballantine, Education Dept.

FROM: Ernest Stern, VPD

SUBJECT: Research Budget Allocations for FY75

DATE: August 9, 1974

Further to my memorandum of June 21, the attached table shows the revised financial allocations for FY75. Other projects in your department that do not appear on the table do not have any authorization for FY75. However, you should continue to submit quarterly status reports for all projects until the results of the research have been finally reported on.

Attachment

cc: Messrs. B.King/D.C.Rao
P. Smith
Mrs. M. Hazzah

<u>RPO No.</u>	<u>Title</u>	<u>Revised FY75 Allocation (\$'000)</u>
244	Student Loan Schemes	15.0
278	Project Evaluation Methodology: Education Attainments	40.0

August 9, 1974

OP-RESEARCH
(RPO # 301)

OFFICE MEMORANDUM

Yellow

TO: Mr. R. Gulhati, ECD

DATE: August 9, 1974

FROM: Ernest Stern, VPD

SUBJECT: Research Budget Allocation for FY75

This is to confirm the budget allocation for FY75 for the following research project. Please inform the project supervisor accordingly. Other projects in your department that do not appear on the table do not have any authorization for FY75. However, you should continue to submit quarterly status reports for all projects until the results of the research have been finally reported on.

<u>RPO No.</u>	<u>Title</u>	<u>Revised FY75 Allocation (\$'000)</u>
301	Country Concentration	5.0

cc: Messrs. B.King/D.C.Rao
P. Smith
Mrs. M. Hazzah
Mr. Ahluwalia

CP-RESBDCM
(RPO# 279)

OFFICE MEMORANDUM

Yellow

TO: Mr. S. Kirmani, East Asia & Pacific DATE: August 9, 1974

FROM: Ernest Stern, VPD

SUBJECT: Research Budget Allocation for FY75

This is to confirm the budget allocation for FY75 for the following research project. Please inform the project supervisor accordingly. Other projects in your department that do not appear on the table do not have any authorization for FY75. However, you should continue to submit quarterly status reports for all projects until the results of the research have been finally reported on.

<u>RPO</u> <u>No.</u>	<u>Title</u>	<u>Revised FY75</u> <u>Allocation (\$'000)</u>
279	Economic Development of East and Southeast Asia	25.8

cc: Messrs. B.King/D.C.Rao
P. Smith
Mrs. M. Hazzah

OFFICE MEMORANDUM

Jellison

TO: Mr. D. Avramovic, LAC

DATE: August 9, 1974

FROM: Ernest Stern, VPD

SUBJECT: Research Budget Allocation for FY75

This is to confirm the budget allocation for FY75 for the following research project. Please inform the project supervisor accordingly. Other projects in your department that do not appear on the table do not have any authorization for FY75. However, you should continue to submit quarterly status reports for all projects until the results of the research have been finally reported on.

<u>RPO</u> <u>No.</u>	<u>Title</u>	<u>Revised FY75</u> <u>Allocation (\$'000)</u>
310	Promotion of non-Traditional Exports	40.0

cc: Messrs. B.King/D.C.Rao
P. Smith
Mrs. M. Hazzah

O.P. Research
(Traffic Restraint Study)
R.P.# 320

August 8 1974


Files

Clell G. Harral

UNEP Contribution to Traffic Restraint Study (Singapore)

I spoke by telephone today with Vicente Sanchez, Director-in-charge of the Programme Bureau, UNEP, Nairobi. He advises that UNEP has approved our request for \$55,800 for this year, and expect to contribute further in FY76, including possibly a supplemental appropriation to support a conference cum training session on traffic restraint in Singapore for middle management transport officials from other LDC cities. We can expect formal notification within the next day or two.

c.c. Messrs. Holland, Keare
Watson
King
Rao

CGHarral:ww

OP-RESEARCH
(RPO# 225)
OFFICE MEMORANDUM

TO: Mr. F. Moore, Industrial Projects Dept. DATE: August 8, 1974
FROM: D. C. Rao, VPD *DK*
SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
225	37.5	12.5	50.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

OFFICE MEMORANDUM

TO: Mr. J. Warford, Public Utilities Dept. DATE: August 8, 1974
FROM: D. C. Rao, VPD *DK*
SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
276	8.2	5.5	13.7

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Rovani

OFFICE MEMORANDUM

TO: Mr. D. Anderson, Public Utilities Dept. DATE: August 8, 1974
FROM: D. C. Rao, VPD *DK*
SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
267	21.0	3.5	24.5

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Rovani

OFFICE MEMORANDUM

TO: Mr. G. Donaldson, Agriculture &
Rural Development Dept.

FROM: D. C. Rao, VPD

SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
289	21.9	5.5	27.4

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Yudelman

OFFICE MEMORANDUM

OP. RES. FILE # 11
(RPO # 279)

TO: Mr. P. Hasan, East Asia & Pacific Dept. DATE: August 8, 1974
FROM: D. C. Rao, VPD
SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
279	26.5	-	26.5

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Kirmani

OFFICE MEMORANDUM

TO: Mr. P. Yeung, EPDCE

FROM: D. C. Rao, VPD *DK*

SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
281	21.8	-	21.8

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Tims

OP-RESEARCH
(RPO # 282)
OFFICE MEMORANDUM

TO: Mr. S. Singh, EPDCE

DATE: August 8, 1974

FROM: D. C. Rao, VPD *DK*SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
282	4.5	-	4.5

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Tims

OP-RESEARCH
(RPO# 291)

OFFICE MEMORANDUM

TO: Mr. J. Simmons, ECDOH
FROM: D. C. Rao, VPD
SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
291	10.5	6.5	17.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Culhetti

OP-RESEARCH
(RPO# 280)

OFFICE MEMORANDUM

TO: Mr. S. Reutlinger, ECD
FROM: D. C. Rao, VPD
SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
280	18.3	17.7	36.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OFFICE MEMORANDUM

TO: Mr. Leiserson, ECDAR

DATE: August 8, 1974

FROM: D. C. Rao, VPD *DK*SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
293	17.8	3.4	21.2

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OFFICE MEMORANDUM

TO: Ms. A. Sant'Anna, EGDRB

DATE: August 8, 1974

FROM: D. C. Rao, VPD *DR*SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
290	22.1	6.9	29.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OFFICE MEMORANDUM

TO: Files

DATE: August 8, 1974

FROM: Ricardo Bacarreza *AB.*SUBJECT: The Macro-Economic Model of Colombia

1. The projections made with the macro-economic model developed for Colombia indicate that should there be no change in the economic policies, the country will be faced with a persevering fiscal deficit and an increasing dependence on foreign capital. The projections also show that the trade-gap will be binding until 1976 and the savings-gap from then on.

2. In the face of these findings the following recommendations have been made:

- a. Exports should be promoted, especially in the early years of the projection period when the trade-gap is binding. The constraints on coffee production should be relaxed and, at the same time, efforts should be made to develop new markets for the product, thus increasing the coffee exports. Minor exports should be stimulated even more than in the past. An increase in minor exports will require an increase in minor-export-producing activities and/or a cut down in consumption, otherwise domestic shortages will develop.
- b. Tax revenues should be increased especially those proceeding from personal income. This policy will diminish the fiscal deficit and, most important, it will reduce private consumption relaxing the domestic savings constraint. Also, reduced private consumption means reduced imports of consumer goods and therefore a relaxation of the trade constraint.
- c. Public current expenditures should be reduced and public investment increased. Increased tax revenues plus reduced public current expenditures will produce resources for public investment. This will make up for the reduction of private investment resulting from increased tax payments (tax payments reduce both private consumption and private savings).
- d. Emphasis should be placed on the development of the agricultural sector. Given the relatively small size of the domestic market large scale operations and specialization are only possible in those activities which generate exports. Colombia has a comparative advantage in agriculture, therefore the growth of that and other related sectors (i.e., food processing) should be seriously stimulated.

3. The model has been used to simulate the effects of a particular combination of these policies. The magnitude of the policy changes used in that particular combination may not be optimal. The nature of the simulation exercise is more illustrative than normative.

4. Other policy measures which may be used to relax the trade and savings constraints are, respectively, a currency devaluation and the promotion of a more efficient capital market in order to attract private savings. However, given the limitations of the model, it is not possible to test the power of these policies. This is a field where a further effort is warranted. The model could be greatly improved if it were possible to capture monetary and relative price effects (including exchange rate effects). Also, a further disaggregation is important, in order to test the impact of policies that stimulate different sectors of the economy (e.g., the construction sector) upon GDP and employment. Finally, it would be very useful to include information on investment by sectors.

RBacarreza:lcm

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

A MACRO-ECONOMIC MODEL OF COLOMBIA

by

Ricardo R. Bacarreza

August 6, 1974

Comparative Analysis and Projections Division
Economic Analysis and Projections Department

A MACRO-ECONOMIC MODEL OF COLOMBIA

	<u>Page</u>
A. Introduction	1
B. The Macro-Economic Sub-Model	2
Sectoral Output	2
Investment	4
Changes in Inventories	6
Imports	7
Exports	8
Consumption and Savings	9
The Gaps	10
C. Government Accounts	10
D. Balance of Payments	13
E. Projections	14
F. Summary of the Model and Symbols	

A Macro-Economic Model of Colombia

A. Introduction

This paper describes the characteristics of an econometric model of the Colombian economy. The objective of the model is to project the foreign exchange requirements to sustain a desired growth rate of GDP.

The model which has a very simple structure is composed of three interconnected sub-models: a macro-economic sub-model, a government accounts sub-model and a balance of payments sub-model. Unlike most of the previous econometric work done on Colombia, the macro-economic sub-model is not Keynesian. Gross domestic product (GDP) is projected both from the production and the expenditure sides. Based on several predetermined parameters, mostly policy parameters, the macro-economic sub-model simulates the functioning of the supply as well as of the demand side of the economy indicating the level of investment and imports needed to achieve a target growth rate. The government accounts sub-model determines government capital requirements given the level of public investment. The balance of payments sub-model determines the amount of foreign exchange required to fulfill the growth plans for the economy.

The lack of statistical data precluded the formulation of a very disaggregated model where, for example, sectoral investment would play some role. Also, all the attempts to introduce prices to explain the behavior of the economy were unsuccessful due to the poor quality of the existing data.

The model is basically constituted by 49 equations. The behavioral equations have been generally estimated over the 1960-71 period using least

squares techniques.^{1/} Most of the variables in these equations, dependent as well as independent, are in 1958 constant Colombian pesos. The model uses 1972 as the base year to make projections for the 18-year period 1973-90.^{2/}

B. The Macro-Economic Sub-Model

The macro-economic sub-model projects the national accounts variables. The projections are made in 1958 Colombian pesos but subsequently translated into 1972 constant US dollars using appropriate deflators and rate of exchange.

Sectoral Output

The two leading sectors of the Colombian economy are agriculture and industry. These two sectors make up for more than 45% of total GDP, and have a direct impact on other sectors such as commerce, transport, banking and services. Hence, in the modeling exercise, the economy has been disaggregated into the two former sectors plus transport because of its impact on the machinery component of investment.

Agriculture has been divided into coffee and non-coffee. Coffee production constitutes more than 18% of value added in the Agricultural sector and approximately 5% of total value added. Given the importance of this product to the Colombian economy, an effort was made to explain the behavior of the coffee growers. Many different explanatory variables were tried. The best equation obtained is the following:

$$\text{COFE}_t = 4.950 + 827.19 \text{ INPC}_{t-4} / \text{GDPDEF}_{t-4} \quad \bar{R}^2 = .645 \quad \text{DW} = 1.86$$

(6.39)(3.70)

where COFE is in thousands of 60 kg bags, INPC is the domestic price of

^{1/} The estimated equations are shown with their statistical properties; t-ratios are in parentheses below each coefficient, \bar{R}^2 is the coefficient of determination adjusted for degrees of freedom. DW is the Durbin-Watson statistic and ρ is the autocorrelation coefficient. In those cases where the interval is not the 1959-72 period, the interval is also given.

^{2/} The projections for the period 1980-85 should be taken very cautiously and those for the period 1985-90 with a great deal of skepticism.

coffee in current Colombian pesos (i.e., the price at which the Federation of Coffee Growers guarantees to purchase all the coffee offered to it), and GDPDEF is the GDP deflator. This equation indicates that the price set by the Federation explains roughly 65% of the coffee production and that its effect is felt four years later (approximately the time it takes a coffee tree to achieve full maturity). However, this equation was estimated based on historical data and there have been new developments in the coffee sub-sector lately such as the use of high-yield coffee varieties and the termination of the International Coffee Organization agreements. Therefore, it was decided to use an equation such as the one below to project coffee production under these new conditions:

$$\text{COFE}_t = \text{COFE}_{t-1} \cdot (1 + \epsilon_{\text{Cof}})$$

where ϵ_{Cof} is the growth rate of coffee production, and is specified exogenously. Also, this opens the possibility of testing different policies towards the production of coffee (e.g., limitations on the total area which can be planted with coffee).

In the past, due to a conscious policy of government in conjunction with the Federation of Coffee Growers, the production of coffee has varied within a very narrow range. The average number of 60 kg bags produced over the period 1960-71 is approximately 7.8 million per year, with a maximum of 8.2 millions in 1965 and a minimum of 7.2 million in 1971.

Coffee production has been related to value added in the coffee sub-sector through the following equation:

$$\text{YCOF}_t = \alpha_1 \text{COFE}_t$$

where α_1 is an exogenous parameter relating coffee production, expressed in 1958 Colombian pesos, to value added, expressed in 60 kg bags. For the period 1960-71 α_1 was found to be .2655 on the average. The formula used to determine the average value of α_1 is:

$$\alpha_1 = \frac{\sum_{t=60}^{71} YCOF_t}{\sum_{t=60}^{71} COFE_t}$$

where Y_{cof} is in millions of 1958 Colombian pesos and COFE in thousands of 60 kg bags. Here, again, an effort was made to establish a statistical relationship between YCOF and COFE but given the poor quality of the data this was not possible.

Value added in the non-coffee sub-sector and in the industrial sector depend on exogenously specified growth rates which reflect overall policies or objectives. Thus:

$$YCOF_t = YCOF_{t-1} (1 + g_{ncof})$$

$$YIND_t = YIND_{t-1} (1 + g_{ind})$$

and

$$YAGR_t = YCOF_t + YIND_t$$

where YAGR is value added in the agricultural sector.

Value added in the transport sector and total GDP are determined endogenously through the following equations:

$$YTRAN_t = 148.21 + .2983 YIND_t$$

(3.53) (41.73)

$$\bar{R}^2 = .994 \quad DW = 1.76$$

$$GDP_t = -1142.88 + 3.2638 YIND_t + 1.4405 YAGR_t$$

(-1.19)(13.15) (5.54)

$$\bar{R}^2 = .999 \quad DW = 1.24$$

It is interesting to note that YIND has a multiplier effect on GDP which is more than twice that of YAGR. This was to be expected since industry has more links with the rest of the sectors in the economy than agriculture.

Value added in agriculture and private consumption were also tried as explanatory variables of YTRAN but were dropped because their coefficients were not significant. As stated above, the reason why the transport sector has been treated separately is because it has a strong relationship with the machinery component of fixed investment.

Investment

The purpose of the investment functions in this model is to indicate the capital requirements to sustain a specified growth rate of the economy.

Given the complete lack of information about investment by sectors the functions have been derived in very aggregated terms. Total fixed investment is given by:

$$FI_t = ICORFI_t \Delta (GDP - YAGR)_{t+1}$$

and the machinery component of fixed investment is given by:

$$IM_t = ICORIM \Delta (YIND + YTRAN)_{t+1}$$

The latter component has been treated separately because of its impact on the imports of capital goods.

The incremental capital output ratios have been estimated using ordinary least squares techniques. In order to do so a Harrod-Domar production function was postulated. Furthermore, it was assumed that the capital stock is composed partly of investment in year t-1, partly of investment in year t-2, and so on in the past, and that the contribution of investment in year t-i to the capital stock in year t declines geometrically with i (i.e., the Koyck assumption^{1/} $Y_t = \beta (1 - \lambda)(I_{t-1} + \lambda I_{t-2} + \lambda^2 I_{t-3} + \dots)$). This, then, leads to a function of the form:

$$Y_t = A_1 I_{t-1} + A_2 Y_{t-1}$$

where Y is production and I is investment. Manipulating this function the following expression is obtained for the incremental capital-output ratio (ICOR)^{2/}:

1/ L.M. Koyck, Distributed Lags and Investment Analysis, North-Holland Publishing Co., Amsterdam, 1954.

2/ To get to the expression for the ICOR the following algebraic manipulations are performed on the function for Y:

$$Y_t - Y_{t-1} = A_1 I_{t-1} - (1 - A_2) Y_{t-1}$$

$$1 = \frac{A_1 I_{t-1}}{Y_t - Y_{t-1}} - \frac{(1 - A_2) Y_{t-1}}{Y_t - Y_{t-1}}$$

but

$$ICOR_t = \frac{I_{t-1}}{Y_t - Y_{t-1}} \quad \text{and} \quad r_t = \frac{Y_t - Y_{t-1}}{Y_{t-1}}$$

hence

$$1 = A_1 ICOR - (1 - A_2)/r_t \quad \text{or} \quad ICOR = \beta_1 + \beta_2/r_t$$

$$ICOR_t = \beta_1 + \beta_2/r_t \quad \beta_1, \beta_2 \geq 0$$

where r_t is the growth rate of Y.

Several regressions were run to estimate ICORFI and ICORIM best ones being, respectively:

$$ICORFI_t = .01 + .2440/GR (GDP - YAGR)_t \quad \bar{R}^2 = .895 \quad DW = 1.57 \\ (1961-71) \quad \rho = .6$$

$$ICORIM_t = .3181/GR(YIND + YTRAN)_t \quad \bar{R}^2 = .917 \quad DW = 1.58 \\ (1961-71) \quad \rho = .5$$

where

$$GR(GDP - YAGR)_t = \frac{(GDP - YAGR)_t - (GDP - YAGR)_{t-1}}{(GDP - YAGR)_{t-1}}$$

The equation for ICORFI indicates that fixed investment in the agricultural sector is either very small or not accounted for in the historical time series. The equation for ICORIM indicates that the machinery component of fixed investment goes mostly into the industrial and transport sectors.

Changes in Inventories

The data for changes in inventories presented in the Colombian national accounts is incomplete and unreliable. The analysis performed on this data indicated that changes in inventories depend to a large extent on changes in coffee stocks (Δ COFSTK) and swings in imports (Δ M). The estimated behavioral relationship is:

$$INVCH_t = 334.16 + 1.4481 \Delta \text{COFSTK}_t + .2529 \Delta M_t \quad \bar{R}^2 = .659 \quad DW = .97 \\ (3.44) \quad (3.23) \quad (3.58)$$

However, this equation leaves a lot to be desired. First, because it is not clear why the coefficient of Δ COFSTK should be greater than 1. Second, because the Durbin-Watson is quite low; and finally, because of the problems involved in estimating Δ COFSTK. Therefore, changes in inventories have been projected as a fixed share of GDP.

$$INVCH_t = \alpha_2 GDP_t$$

Over the period 1960-71 the average value of INVCH has been 2.2% of GDP (i.e., $\alpha_2 = .022$), with a maximum of 4.5% in 1966 and a minimum of .8% in 1967.

Imports

Three broad categories of imports have been distinguished. Imports of capital goods (MCAP) depend on the machinery component of fixed investment and imports of intermediate goods for industry (MINTI) depend on the value added of that sector (imports of intermediate goods going to the industrial sector constitute roughly 97% of total intermediate goods). The behavioral relationships estimated are:

$$MCAP_t = -126.55 + .6398 IM_t \quad \bar{R}^2 = .866 \quad DW = 2.33$$

(-.68) (8.19) (1960-70) \quad \varphi = .2

$$LOG(MINTI_t) = .8408 LOG(YIND_t) \quad \bar{R}^2 = .688 \quad DW = 2.20$$

(239.07) (1960-70) \quad \varphi = -.4

Efforts to include relative prices were completely unsuccessful.

The equations estimated when that variable was included are shown below:

$$MCAP_t = -172.86 + .6174 IM_t + 16.07 \frac{(EXR_t \cdot MPRICE_t)}{GDPDEF_t} \quad \bar{R}^2 = .848 \quad DW = 1.54$$

(-.63) (7.53) \quad (.48)

$$MINTI = -97.29 + .2294 YIND_t + 42.66 \frac{(EXR_t \cdot MPRICE_t)}{GDPDEF_t} \quad \bar{R}^2 = .474 \quad DW = 2.88$$

(-.15) (2.47) \quad (.33)

where EXR is the exchange rate and MPRICE is the import price index. In both these equations the relative prices variable appears to have no significance. (Note, also, that the sign of the coefficients of the variable are opposed to what should be expected.) Time was also included as a variable in the above equations, but it did not show any significance, indicating, perhaps, that there has not been substitution of imports in these categories.

The import function estimated for consumption goods (MCO) is the following:

$$MCO_t = -140.95 + .0194 PC_t + 99.05 \frac{RES_{t-1}}{MPRICE_{t-1}} \quad \bar{R}^2 = .967 \quad DW = 1.86$$

(-3.03) (9.90) (9.09) (1960-70)

where PC is private consumption and RES is the level of net foreign exchange reserves with the central bank, in current US dollars. The fact that this latter variable appears as significant indicates that the policy towards the import of consumption goods is partly governed by the level of foreign exchange reserves in the central bank. RES_t is calculated endogenously as:

$$RES_t = RES_{t-1} + \Delta RES_t$$

$$\Delta RES_t = 61.36 + .6885 CHRES_t \quad \bar{R}^2 = .823 \quad DW = 2.72$$

(1.68) (6.69) (1961-71) $\varphi = .8$

where CHRES is the total change in foreign exchange reserves (central plus commercial banks reserves), and is obtained from the balance of payments sub-model. Here again relative prices and time did not play any significant role when included as explanatory variables. The behavioral equation estimated for ΔRES has been replaced by:

$$\Delta RES_t = .70 CHRES_t$$

where .70 is a historical coefficient. The reason for doing this is that for small CHRES, ΔRES would be completely dominated by the constant term in the estimated equation, and it would appear to be always positive which is unlikely.

Finally, total imports are given by

$$M_t = 215.90 + 1.6041 (MCAP_t + MINTI_t + MCO_t) \quad \bar{R}^2 = .818 \quad DW = 1.54$$

(1960-70)

Total imports include MCAP, MINTI, MCO, imports of non-factor services, imports of other intermediate goods, and all other imports not included in the previous categories.

Exports

Exports have been divided in four categories; coffee, oil, minor exports and non-factor services. The volume of coffee exports (XCOFE) is given by:

$$XCOFE_t = \alpha_3 COFE_t$$

where α_3 is the percentage of coffee production that is exported. Over the period 1960-71 α_3 has been 80% on the average, with a maximum of 90% and a minimum of 70%. α_3 may be considered as a policy variable. Foreign exchange proceeds from coffee exports are given by:

$$XCOF_t = \alpha_4 XCOFE_t$$

where α_4 indicates U.S. dollars earned per 60 kg bag f.o.b.

Several functions for coffee exports were specified and estimated econometrically. Variables such as the coffee production and external price of coffee were used to explain the behavior of coffee exports. However, all the attempts to derive such a function were unsuccessful.

The following function has been estimated for minor exports:

$$XMIN_t = 677.69 + .5611 YIND_t + .2526 YNCOF_t - .2532 PC_t + 165.08 T$$

(.79) (1.35) (1.11) (-2.61) (2.65)

$$\bar{R}^2 = .936 \quad DW = 2.36$$

The positive coefficient of the time variable indicates that there has been a stimulus to minor exports. Since this stimulus depends on government policies, minor exports in the model have been specified exogenously through a growth rate in order to simulate different strategies. Oil as well as non-factor services have also been specified exogenously. Finally,

$$X_t = XCOF_t + XMIN_t + XOIL_t + XNFS_t$$

Consumption and Savings

Consumption has been broken down in private and government consumption. Private consumption has been estimated as a function of disposable income (DI) and the result obtained is the following:

$$PC_t = -775.40 + 1.0137 DI_t$$

(-1.29) (39.04)

$$\bar{R}^2 = .9935 \quad DW = 2.93$$

The above equation was rejected because the coefficient of DI is greater than 1 which implies that the non-corporate private sector would be borrowing from the other sectors to finance its consumption all through the projection period.

The following equation has been used instead:

$$PC_t = \alpha_5 DI_t$$

where α_5 has been calculated as:

$$\alpha_5 = \frac{\sum_{t=60}^{70} PC_t}{\sum_{t=60}^{70} DI_t} = .98$$

If this value were right it would indicate that only the corporate sector and government perform the saving effort in Colombia. Since α_5 is specified exogenously more realistic values may be used in the simulation runs.

Disposable income is calculated as:

$$DI_t = PI_t - DHT_t$$

where PI is personal income and DHT direct household taxes. DHT is calculated in the government accounts sub-model and PI is calculated endogenously using the following estimated equation:

$$PI_t = -2061.59 + .8650 GDP_t \quad \bar{R}^2 = .994 \quad DW = 1.57$$

(-3.12) (39.50)

The Gaps

Once all the above variables have been determined the trade (M-X) and the savings (I-S) gap can be calculated. If these two gaps do not equal ex post adjustments must be made until they do. These adjustments have been made in the traditional lines of the two-gap models. If the trade gap is greater than the savings gap the adjustment is made by increasing private consumption. If the trade gap is smaller than the savings gap the adjustment is made by increasing imports.

C. Government Accounts

The government accounts sub-model has been designed to capture both the behavior as well as the policy decisions of the general government.^{1/} These accounts have been projected in constant 1972 Colombian pesos.

^{1/} The general government comprises the central government as well as public properties and enterprises.

Government consumption outlays are calculated endogenously in the model using the following estimated equation:

$$GC_t = 945.84 + .2200 GR_t \quad \bar{R}^2 = .9421 \quad DW = 2.00 \\ (9.64) \quad (9.52) \quad (1960-70) \quad P = .2$$

where GR is general government total current income receipts. The small size of the coefficient of GR (which means that the share of incremental revenues that is consumed is small) indicates an established governmental organization.

Current revenue is also estimated endogenously through the following equation:

$$GR_t = -40.53 + 1.2740 DT_t + .9121 IT_t \quad \bar{R}^2 = .9968 \quad DW = 1.81 \\ (-.28) \quad (7.88) \quad (7.46) \quad (1960-70) \quad \varphi = .5$$

where DT is direct taxes and IT indirect taxes. General government revenues include revenues from its properties and enterprises, interest on public debt and other current transfers from households, as well as direct and indirect taxes.

Direct taxes are given by:

$$DT_t = DHT_t + DCT_t$$

where DHT is direct household taxes and DCT direct corporate taxes. DHT and DCT are specified exogenously depending on government's tax policies.

$$DHT_t = \alpha_6 PI_t$$

$$DCT_t = \alpha_7 GDP_t$$

where α_6 and α_7 are policy parameters. Over the period 1960-70 direct household taxes have been 3.8% of personal income and direct corporate taxes 2.2% of GDP on the average (i.e., $\alpha_6 = .038$ and $\alpha_7 = .022$). However, during the second half of the period these percentages increased to 4.5% and 2.3%, respectively.

Several different functions were specified in an attempt to explain the behavior of indirect taxes econometrically. The function which yielded the best results is the following:

$$IT_t = -2673.56 + .6974 X_t + .2521 M_t \quad \bar{R}^2 = .944 \quad DW = 1.53$$

(-6.42) (5.08) (2.76)

This equation indicates that the bulk of the indirect taxes proceeds from taxes on foreign trade (a very important tax is the one levied on coffee exports) and foreign exchange operations. Private consumption was also tried as an explanatory variable but the results indicated that it has no significant effect on indirect taxes.

Although the above equation exhibits a good fit it was rejected because it is difficult to conceive that approximately 70% of incremental export earnings are taxed away by government. The equation is illustrative in that the signs of the coefficients of X and M are positive, as should be expected. Also, the relative magnitude of the coefficients of the explanatory variables indicate that a marginal increment in exports produces nearly three times more tax revenues than a marginal increase in imports.

The alternative chosen is to project indirect taxes as a percentage of GDP. That is:

$$IT_t = \alpha_8 \text{ GDP}_t$$

The average value of indirect taxes collected of the period 1960-70 was 7.2% of GDP (i.e., $\alpha_8 = .072$). During the second half of the period that percentage increased to 8.3%. The advantage of this approach is that α_8 can be treated as a policy parameter.

Government savings are given by:

$$GS_t = GR_t - GC_t - GTR_t$$

where GTR is government current transfers to households plus other subsidies. GTR has been projected as a fixed percent of GC; i.e.:

$$GTR_t = \alpha_9 GC_t$$

Over the period 1960-68 the average value of GTR has been 19% of GDP (i.e., $\alpha_9 = .19$) during the second half of the period to 27%, and reaching approximately 36% in 1968.

Government investment is taken as a fixed percentage of fixed investment plus changes in inventories (i.e., total investment):

$$PUBINV_t = \alpha_{10} (FI_t + INVCH_t)$$

α_{10} is, up to a certain extent, a policy parameter indicating what is government's share of total investment. Over the period 1960-71 the average public investment has been around 24% of total investment (i.e., $\alpha_{10} = .24$). During the last five years of the period this percentage increased to 27.4%.

Finally, government deficit is calculated as:

$$GDEFIC_t = PUBINV_t - GS_t$$

This deficit has to be covered with external and internal borrowings. GDEFIC is also expressed in current dollars in order to make it comparable to external public borrowings which are projected in those units.

D. Balance of Payments

The balance of payments is projected in current dollars. The information required for the balance of trade is obtained from the macro-economic sub-model. Total imports and exports are translated from constant dollars to current dollars using imports and exports prices indices which are given exogenously for each year within the projection period.

The capital account is given by a set of identities. New loans contracted by the public sector, factor service income and net current

transfers are projected exogenously. The change in total reserves is linked to total exports in current prices (EXPORT) through the following relationship:

$$\text{CHRES}_t = \alpha_{11} \text{EXPORT}_t$$

Disbursements and debt service payments on public debt are calculated endogenously from the new loans commitments and the undisbursed portion of loans in the pipeline. To this effect, the model uses standard disbursements patterns as well as debt repayment schemes (one for each type of loan) which are, again, specified exogenously.

The balancing item has been chosen to be short-term loan requirements which will be positive if the foreign exchange inflows on capital account are insufficient to cover the balance of trade deficit (if any) plus the foreign exchange reserve accumulation.

E. Projections

Year 1972 is the latest year for which there is complete information about the National Accounts and the Balance of Payments of Colombia. The tests performed on the model indicate that the estimated and actual values of the major variables do not differ by more than 5% for that year. The model has then been calibrated to get both sets of values to coincide.

The projections run from 1973 to 1990. Though year 1973 is historical, it has also been projected given the very incomplete and unreliable information about the behavior of the economy during that year. The first run of projections has been made using historical values for the exogenous parameters. The purpose of this run is to analyze what would happen should the Colombian economy, and the policies related to it, continue to behave as in the past. The exogenous parameters are:

- g_{cof} = growth rate of coffee production
 g_{ncof} = growth rate of non-coffee agricultural value added
 g_{ind} = growth rate of industrial value added
 g_{xmin} = growth rate of minor exports
 g_{xoil} = growth rate of oil exports
 g_{xnfs} = growth rate of non-factor services exports
 α_1 = value added by each 60 kg coffee bag in 1958 Colombian pesos
 α_2 = share of inventory changes in GDP
 α_3 = fraction of coffee production which is exported
 α_4 = earnings from each 60 kg coffee bag that is exported, in 1972 US dollars (F.O.B. earnings)
 α_5 = marginal propensity to consume of the private sector
 α_6 = revenues from direct household taxes as a percentage of personal income
 α_7 = revenues from direct corporate taxes as a percentage of GDP
 α_8 = revenues from indirect taxes as a percentage of GDP
 α_9 = proportion of public investment in total investment
 α_{10} = government transfers expressed as a percentage of government consumption
 α_{11} = change in reserves expressed as a percentage of total exports

Of these parameters $\alpha_6, \alpha_7, \alpha_8, \alpha_{10}$ and α_{11} are directly under government's command; $\alpha_3, \alpha_5, \alpha_9$ and g_{xmin} are partially under the control of government since it can influence their value; α_1 and α_4 are completely historical; and g_{cof}, g_{ncof} and g_{ind} define possible growth alternatives within certain limits. The rest of the parameters have been fixed at values considered to be realistic.

Three growth alternatives which define the feasible range have been analyzed. They are given in Table 1.

Table 1

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981-90</u>
<u>High Growth Alternative</u>									
g_{cof}	1.1%	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
g_{ncof}	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
g_{ind}	8.7%	8.5	8.4	8.3	8.2	8.1	8.0	8.0	8.0
<u>Medium Growth Alternative</u>									
g_{cof}	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
g_{ncof}	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
g_{ind}	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7
<u>Low Growth Alternative</u>									
g_{cof}	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
g_{ncof}	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
g_{ind}	8.5	8.3	8.1	8.0	7.9	7.8	7.7	7.6	7.5

In all three cases the pattern of industrial growth falls from the very levels achieved in the early 1970's to more likely values during the 1980's. This declining pattern is based on the assumption that as the country industrializes the more profitable ventures are undertaken first, and that as industrialization progresses the more productive resources become scarce and bottlenecks start to develop. The growth rates in all three alternatives are close to the values observed in the past, with the medium growth alternative being the most likely to occur in the future.

The values for g_{xmin} , g_{xoil} and g_{xnf} s given in Table 2 have been estimated based on past experience and a careful assessment of future trends. The values for g_{xmin} are linked to the growths of agriculture and industry.

Table 2

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981-90</u>
<u>High and Medium Growth Alternatives</u>									
Exmin	23.0%	10.0	14.0	17.0	15.0	12.0	10.0	10.0	10.0
Exoil	-41.3%	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exnfs	0.4%	0.0	-2.5	-0.6	0.4	0.5	0.0	0.6	2.0
<u>Low Growth Alternative</u>									
Exmin	23.0%	10.0	13.0	15.0	13.0	11.0	9.0	9.0	9.0
Exoil	-41.3%	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exnfs	0.4%	0.0	-2.5	0.6	0.4	0.5	0.0	0.6	2.0

The historical values for the other parameters are given in Table 3.

Table 3

	<u>1973-90</u>
α_1	C\$265.50/60 kg-bag
α_2	2.20%
α_3	80.00%
α_4	US\$ 66.00/60 kg-bag
α_5	98.00%
α_6	4.00%
α_7	2.50%
α_8	8.00%
α_9	28.00%
α_{10}	35.00%
α_{11}	5.00%

Finally, net foreign transfers (NETTRN), net direct investment income (NETDII), net direct foreign investment (NETDFI) and new public commitments (COMPUB) were projected exogenously in millions of dollars at current prices as shown in Table 4. This table contains, as well, projections for the coffee export price index (XCOPR), the oil export price index (XOILPR), the minor exports price index (XMINPR) and the imports price index (MPRICE).

The model calculates the extra foreign capital requirements (over and above COMPUB) which are assumed to be met through short-term borrowing (SHTERM).

The results produced by the model under the three growth alternatives using historical values for the exogenous parameters are given in Tables 5 through 7. These results indicate that under all three alternatives the economy is dominated by a trade gap during the early years of the projection but very soon the saving gap becomes binding, reflecting the poor savings performances of the non-corporate private sector. Also, a persistent government deficit can be observed which over a few years may have an important effect on the money supply creating an inflationary pressure in the economy. Finally, the extra foreign capital requirements (i.e., SHTERM) increase, in real terms, all through the projection period and it is very doubtful that Colombia will be able to increase its external borrowing as needed to cover such requirements.

In summary, should government maintain the same policies it has adopted in the past the results of the model indicate that the Colombian economy will weaken, becoming more and more dependent on foreign capital and thus jeopardizing its growth prospects.

Table 4

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
NETTRN ^{1/}	43.00	45.00	46.00	48.00	50.00	52.00	54.00	56.00	58.00	60.00	62.00	64.00	66.00	68.00	70.00	72.00	74.00	76.00
NETDII ^{1/}	-54.80	-78.00	-80.00	-81.00	-84.00	-90.00	-96.00	-102.00	-107.00	-114.00	→growing at 6% here on							
NETDFI ^{1/}	-12.40	71.00	30.00	32.00	38.00	46.00	54.00	62.00	70.00	80.00	→growing at 10% here on							
COMPUB ^{1/}	421.57	474.70	537.50	577.00	680.00	796.00	938.00	1134.30	1322.70	1526.60	1770.40	2044.30	2329.20	2613.80	2889.00	3164.20	3450.00	3724.10

XCOPR	129.30	133.50	142.70	151.00	159.90	168.90	177.70	190.10	201.51	213.60	226.41	240.00	254.40	269.66	285.84	302.99	321.17	340.44
XMINPR	120.50	137.30	152.30	163.72	176.00	189.20	203.39	218.65	231.77	245.67	260.41	276.04	292.60	310.15	328.76	348.99	369.40	391.56
XOILPR	142.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XPRIC	120.50	137.37	152.34	163.69	175.89	188.99	203.07	218.20	231.29	245.17	259.88	275.47	292.00	309.52	328.09	347.78	368.65	390.76

^{1/} In millions of dollars at current prices.

Table 5: High Growth Alternative - Historical Parameters

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
GDP ^{1/}	8,410	9,021	9,679	10,374	11,116	11,907	12,749	13,645	14,597	15,620	16,718	17,898	19,165	20,526	21,988	23,559	25,248	27,064	29,016
GDPGR (%)	6.66	7.27	7.29	7.19	7.15	7.11	7.07	7.03	6.98	7.01	7.03	7.06	7.08	7.10	7.12	7.15	7.17	7.19	7.21
YAGR/GDP (%)	26.70	25.80	25.00	24.20	23.50	22.80	22.10	21.50	20.90	20.30	19.70	19.20	18.60	18.10	17.60	17.10	16.60	16.10	15.60
YIND/GDP (%)	20.20	20.50	20.80	21.10	21.30	21.60	21.80	22.00	22.20	22.40	22.60	22.80	23.00	23.20	23.40	23.60	23.80	24.00	24.10
X/GDP (%)	14.99	15.63	15.77	15.95	16.06	16.43	16.70	16.53	17.24	17.44	17.65	17.88	18.11	18.35	18.60	18.86	19.13	19.40	19.69
X/GDP (%)	13.73	13.69	13.20	13.25	13.40	13.60	13.65	13.57	13.53	13.53	13.54	13.58	13.63	13.69	13.77	13.87	13.98	14.10	14.24
RG/GDP ^{2/} (%)	1.47	1.56	2.69	3.07	2.96	3.16	3.42	3.67	4.10	4.28	4.45	4.62	4.78	4.94	5.09	5.24	5.38	5.52	5.66
C/GDY ^{3/} (%)	80.81	80.18	81.20	81.14	80.83	80.85	80.93	81.01	81.04	81.07	81.09	81.11	81.13	81.15	81.17	81.19	81.20	81.22	81.23
I/GDY ^{4/} (%)	20.66	21.37	21.50	21.94	22.14	22.33	22.50	22.68	23.08	23.23	23.38	23.52	23.66	23.80	23.94	24.07	24.19	24.32	24.44
GDEFIC ^{5/}	195.50	184.60	172.50	173.40	167.10	160.60	153.80	146.80	152.10	145.80	139.50	133.00	126.40	119.70	112.90	106.00	99.10	92.10	85.10
GDEFIC/GDP (%)	2.32	2.05	1.78	1.67	1.50	1.35	1.21	1.08	1.04	0.93	0.83	0.74	0.66	0.58	0.51	0.45	0.39	0.34	0.29
SURTERM ^{1/}	-	117.50	132.80	196.40	215.40	267.10	312.60	347.60	429.10	482.10	549.70	624.70	708.40	804.70	918.30	1055.10	1203.90	1361.70	1540.90
COMPUB ^{1/}	-	349.80	345.60	352.80	352.50	386.60	421.20	460.40	519.80	571.90	622.70	681.20	742.10	797.70	844.50	880.50	909.80	935.90	953.00
DBTPUB	-	283.00	298.20	305.50	312.20	321.80	363.20	403.10	463.10	510.80	562.70	620.20	680.00	735.50	780.90	814.10	842.70	866.90	881.70
Binding Gap ^{5/}	-	TG	TG	TG	TG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG

^{1/} In millions of dollars at 1972 prices and exchange rate.

^{2/} RG includes the terms of trade adjustment.

^{3/} C = PC + CC.

^{4/} I = FI + INVCH.

^{5/} TG = trade-gap; SG = saving-gap.

Table 6: MEDIUM GROWTH ALTERNATIVE - HISTORICAL PARAMETERS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
GDP ^{1/}	8,410	9,021	9,665	10,353	11,085	11,865	12,695	13,577	14,514	15,509	16,564	17,695	18,906	20,203	21,594	23,085	24,682	26,396	28,233
GDPGR (%)	6.66	7.26	7.14	7.11	7.08	7.04	6.99	6.95	6.90	6.85	6.80	6.85	6.87	6.88	6.90	6.92	6.94	6.96	6.97
YAGR/GDP (%) ^{2/}	26.70	25.80	25.00	24.30	23.50	22.90	22.20	21.60	21.00	20.40	19.90	19.40	18.90	18.40	17.90	17.40	16.90	16.50	16.10
YIND/GDP (%)	20.20	20.60	20.80	21.10	21.30	21.50	21.80	22.00	22.20	22.40	22.60	22.80	22.90	23.10	23.30	23.50	23.60	23.80	24.00
M/GDP (%)	11.99	15.46	15.85	15.94	16.05	16.44	16.71	16.85	17.01	17.22	17.70	17.94	18.19	18.46	18.73	19.01	19.31	19.61	19.93
K/GDP (%)	13.73	13.89	13.21	13.16	13.43	13.83	13.68	13.81	13.58	13.58	13.64	13.70	13.78	13.88	13.99	14.12	14.26	14.42	14.60
RG/GDP ^{2/}	1.47	1.39	2.77	3.05	2.92	3.14	3.39	3.64	3.82	3.98	4.40	4.56	4.71	4.86	5.00	5.14	5.28	5.41	5.54
C/GDP ^{3/}	80.81	80.44	81.07	81.13	80.81	80.84	80.92	81.00	81.04	81.06	81.09	81.11	81.13	81.15	81.16	81.18	81.19	81.21	81.22
I/GDP ^{4/}	20.66	20.96	21.70	21.93	22.12	22.31	22.48	22.65	22.80	22.94	23.33	23.47	23.60	23.73	23.85	23.98	24.10	24.21	24.33
GDEFIC ^{1/}	195.50	171.50	179.40	173.30	167.00	160.50	153.70	146.60	139.19	131.70	138.90	132.10	125.30	118.30	111.20	104.00	96.60	89.10	81.60
GDEFIC/GDP (%)	2.32	1.90	1.86	1.67	1.51	1.35	1.21	1.03	0.96	0.85	0.84	0.75	0.66	0.59	0.51	0.45	0.39	0.34	0.29
SURFAC ^{1/}	-	102.90	139.30	193.20	210.80	263.00	307.30	342.00	378.00	431.70	534.10	604.30	682.40	772.40	878.90	1,007.70	1,147.40	1,295.10	1,462.80
COMFUEL ^{1/}	-	349.80	345.60	352.80	352.50	386.60	421.20	460.40	519.80	571.90	622.70	681.20	742.10	797.70	844.50	880.50	909.80	935.90	953.00
DETFUEL ^{1/}	-	283.00	298.20	305.50	312.20	321.80	303.20	408.10	463.10	520.80	562.70	620.20	680.00	735.50	780.90	814.10	842.70	866.90	881.70
Binding Gap ^{5/}	-	TG	TG	TG	TG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG

^{1/} In millions of dollars at 1972 prices and exchange rate.

^{2/} RG includes the terms of trade adjustment.

^{3/} C = PC + GC.

^{4/} I = FI + INVCH.

^{5/} TG = trade-gap; SG = saving-gap.

Table 7: LOW GROWTH ALTERNATIVE - HISTORICAL PARAMETERS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
GDP ^{1/}	8,110	9,016	9,654	10,309	11,040	11,795	12,597	13,449	14,351	15,307	16,329	17,424	18,596	19,860	21,193	22,631	24,170	25,822	27,589
GDPGR (%)	6.66	7.20	7.09	6.99	6.84	6.81	6.77	6.72	6.73	6.68	6.68	6.70	6.73	6.75	6.77	6.79	6.81	6.83	6.85
YAGR/GDP (%)	26.70	25.80	25.00	24.20	23.50	22.80	22.20	21.50	21.00	20.40	19.90	19.30	18.80	18.30	17.80	17.30	16.80	16.40	15.90
YIND/GDP (%)	20.20	20.60	20.80	21.10	21.30	21.60	21.80	22.00	22.20	22.40	22.60	22.80	23.00	23.20	23.30	23.50	23.70	23.90	24.00
M/GDP (%)	11.99	15.17	15.78	15.87	16.06	16.17	16.38	16.45	16.55	16.94	17.09	17.24	17.40	17.56	17.74	17.91	18.10	18.29	18.48
K/GDP (%)	13.73	13.69	13.23	13.13	13.29	13.37	13.36	13.27	13.12	13.07	13.03	13.00	12.98	12.98	12.99	13.01	13.04	13.08	13.13
RG/GDP ^{2/} (%)	1.47	1.39	2.68	3.01	3.08	3.14	3.39	3.64	3.82	4.24	4.41	4.57	4.73	4.88	5.03	5.17	5.30	5.44	5.57
C/GDP ^{3/} (%)	80.81	80.43	81.18	81.30	80.96	80.84	80.92	81.00	81.03	81.06	81.08	81.10	81.12	81.14	81.16	81.18	81.19	81.21	81.22
I/GDP ^{4/} (%)	20.66	20.96	21.50	21.71	22.13	22.31	22.49	22.65	22.80	23.20	23.34	23.48	23.62	23.75	23.88	24.00	24.13	24.25	24.36
GDEFIC ^{1/}	195.50	171.90	172.80	166.10	168.10	161.90	155.50	148.90	141.90	148.80	142.80	136.60	130.40	124.00	117.60	111.10	104.50	97.82	91.15
GDEFIC/GDP (%)	2.32	1.91	1.79	1.61	1.52	1.37	1.23	1.11	1.00	0.97	0.87	0.78	0.70	0.62	0.55	0.49	0.43	0.38	0.33
ENTRAN ^{1/}	-	102.80	130.50	187.70	236.00	260.20	302.90	335.90	369.90	461.40	523.30	591.80	667.90	755.80	860.00	986.30	1,123.10	1,267.30	1,431.60
CONTRN ^{1/}	-	349.80	345.60	352.80	352.50	366.60	421.20	460.40	519.80	571.90	622.70	681.20	742.10	797.70	844.50	880.50	909.80	935.90	953.00
ENTRAN ^{2/}	-	283.00	298.20	305.50	312.20	321.80	363.20	403.10	463.10	510.60	562.70	620.20	680.00	735.50	780.90	814.10	842.70	866.90	881.70
Binding Gap ^{5/}	-	TG	TG	TG	TG	TG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG

1/ In millions of dollars at 1972 prices and exchange rate.

2/ RG includes the terms of trade adjustment.

3/ C = PC + GC.

4/ I = FI + INVCH.

5/ TG = trade-gap; SG = saving-gap.

Several different policies and strategies which would improve the prospects for the economy have been analyzed. The results from different sensitivity runs of the model suggest that the course of action is to adopt the following measures:

- a. Increase tax revenues especially those proceeding from personal income. This may be achieved by both increasing the tax rates and by improving the tax collection procedures. The effect of such a policy is to increase government revenues contributing to diminish the government deficit and, most important, to relax the domestic savings constraint.
- b. Reduce government current expenditures and transfers. This measure will have similar effects as a tax-revenue increase.
- c. Stimulate export producing activities in order to decrease the trade gap, especially in the early years of the period of projection. Coffee production should be encouraged in order to increase the amount which can be exported after meeting the domestic demand (the domestic demand is extraordinarily stable, and growing at the same rate as population grows). In parallel with this policy an effort must be made to procure a larger foreign market for the Colombian coffee. Minor exports must also be stimulated. Over the years these exports have developed tremendously and, provided proper policies are adopted in this sense, they could become the major source of foreign exchange.

- d. Develop a strategy in order to increase the output of the agricultural sector, where Colombia has a comparative advantage. Non-coffee agricultural products constitute an important share of minor exports and, furthermore, agricultural production requires few imported inputs.

The model has been used in quantifying the combined effect of these policies. Three growth alternatives have been defined similar to those used in analyzing the effects of unchanged policies. The only differences are that in all three alternatives coffee production has been assumed to grow at 1.1% rather than at 1.0%, and that in the low growth alternative non-coffee agricultural value added has been assumed to grow at 4.5% rather than at 4.3%. The values of ϵ_{xmin} have been increased to the ones indicated in Table 8.

Table 8

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981-85</u>	<u>1985-90</u>
<u>High & Medium Growth Alternatives</u>										
ϵ_{xmin}	23.0%	10.0	17.0	20.0	20.0	17.0	15.0	12.0	12.0	10.0
<u>Low Growth Alternative</u>										
ϵ_{xmin}	23.0%	10.0	14.0	17.0	15.0	12.0	10.0	10.0	10.0	10.0

The other modified parameters are shown in Table 9.

Table 9

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977-90</u>
α_3	85.00%	85.00	85.00	85.00	85.00
$\alpha_{5/a}$	98.00%	98.00	96.00	95.50	95.00
$\alpha_{6/b}$	4.00%	4.00	5.00	6.00	7.00
$\alpha_{7/b}$	2.50%	2.50	3.00	3.00	3.00
$\alpha_{8/b}$	8.00%	8.00	9.00	9.50	10.00

/a The propensity to consume of the private sector has been diminished to reflect the effect of increased direct corporate taxes (part of these taxes will be passed on to consumers) and increased indirect taxes. The quantitative effect was calculated by assuming that 70% to 80% of the increase in tax revenues would come from a reduction in private consumption and the rest from a reduction in private savings.

/b It is easier to view the change in tax revenues in terms of absolute amounts. These are given in the output of the model.

Finally, it has been assumed that government current consumption and transfers grow by only 3% rather than by 4.3% to 5.0% as they would, should government not alter its past behavior. All the rest of the parameters remain unchanged.

The results of the medium-growth alternative, which is the most reasonable, are summarized in Table 10 and given in detail in Table 11. The results indicate that as a consequence of the contractionary fiscal policies the government deficit disappears, and that the extra foreign capital requirements stay at a manageable level during the 1970's and that from 1980 on there is a surplus in the balance of payments.

The model thus shows the direction and magnitude of the policy corrections that must be applied on the economy to keep it in an appropriate growth path.

Table 10: MEDIUM GROWTH ALTERNATIVE - MODIFIED-POLICY PARAMETERS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
GDP ^{1/}	8,410	9,021	9,667	10,354	11,088	11,868	12,699	13,581	14,519	15,515	16,571	17,702	18,914	20,212	21,604	23,095	24,694	26,408	28,245
GDPCR (%)	6.66	7.27	7.15	7.12	7.08	7.04	7.00	6.95	6.91	6.86	6.81	6.83	6.85	6.87	6.88	6.90	6.92	6.94	6.96
YAGR/GDP (%)	26.70	25.80	25.00	24.30	23.60	22.90	22.20	21.60	21.00	20.40	19.90	19.40	18.90	18.40	17.90	17.40	17.00	16.50	16.10
YIND/GDP (%)	20.20	20.60	20.80	21.10	21.30	21.50	21.80	22.00	22.20	22.40	22.60	22.70	22.90	23.10	23.30	23.50	23.60	23.80	24.00
M/GDP (%)	14.99	15.51	15.85	15.88	15.95	16.03	16.14	16.23	16.32	16.39	16.57	16.64	16.71	16.77	16.92	17.21	17.51	17.83	18.16
X/GDP (%)	13.73	13.98	13.50	13.61	14.08	14.67	15.16	15.86	15.76	16.03	16.35	16.70	17.08	17.51	17.71	17.94	18.18	18.44	18.72
RG/GDP ^{2/} (%)	1.47	1.13	2.49	2.55	2.20	1.72	1.37	1.10	0.96	0.75	0.59	0.29	-0.01	-0.04	-0.05	-0.05	-0.04	-0.04	-0.03
C/GDP ^{3/} (%)	80.81	80.17	80.79	80.63	80.08	79.47	78.89	78.45	78.17	77.81	77.26	76.82	76.35	75.84	75.64	75.56	75.49	75.41	75.34
I/GDP ^{4/} (%)	20.66	20.95	21.70	21.93	22.12	22.31	22.48	22.65	22.80	22.94	23.33	23.47	23.60	23.73	23.85	23.97	24.09	24.21	24.32
GDEFIC ^{1/}	195.50	192.50	191.10	-95.10	-300.70	-533.90	-604.40	-680.10	-761.30	-848.30	-926.20	-1025.40	-1132.60	-1248.50	-1373.60	-1509.20	-1655.40	-1813.30	-1983.90
GDEFIC/GDP (%)	2.32	2.13	1.98	-0.92	-2.71	-5.00	-4.76	-5.01	-5.24	-5.47	-5.59	-5.79	-5.99	-6.18	-6.36	-6.53	-6.70	-6.87	-7.02
SHTERM ^{1/}	-	79.70	113.60	143.30	132.40	93.20	55.20	3.10	-30.10	-63.50	-89.30	-142.80	-209.20	-287.50	-302.20	-276.60	-248.60	-222.00	-185.30
COMM ^{1/}	-	349.30	345.60	357.30	352.50	386.60	421.20	450.40	519.80	571.90	622.70	681.20	742.10	797.70	844.50	880.50	909.80	935.90	953.00
DBTPUB ^{1/}	-	283.00	298.20	305.50	312.20	321.80	363.20	408.10	463.10	510.80	562.70	620.20	680.00	735.50	780.90	814.10	842.70	866.90	881.70
Binding Gap ^{5/}	-	SG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG	TG

1/ In millions of dollars at 1972 prices and exchange.

2/ RG includes the terms of trade adjustment

3/ C = PC + GC.

4/ I = FI + INVCH.

5/ TG = trade-gap; SG = saving-gap.

Table 11: COLOMBIA RUN 5 - MEDIUM GROWTH ALTERNATIVE - MODIFIED-POLICY PARAMETER

JULY 31 1974 TIME=0:135

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
NATIONAL ACCOUNTS (MILLIONS OF COLOMBIAN PESOS-1958 PRICES)										
326 PCC	33364.800	35864.356	38673.520	41418.020	44152.771	46974.985	50039.633	53335.309	56971.022	60760.118
327 GCC	2574.800	2652.068	2731.630	2813.579	2897.986	2934.926	3074.473	3166.708	3261.709	3359.560
268 FIC	7522.100	8154.192	9030.318	9768.862	10558.217	11401.097	12300.209	13258.454	14276.682	15363.808
270 INVCH	852.700	1021.988	1095.067	1172.996	1256.037	1344.460	1438.541	1538.564	1644.818	1757.600
277 XC	6560.700	7170.372	7415.687	8010.754	8871.712	9894.306	10936.911	12010.161	13006.296	14135.689
328 MC	-7567.900	-6402.306	-9200.445	-9873.954	-10620.045	-11425.702	-12303.872	-13236.164	-14224.472	-15270.574
252 GUPC	43307.200	46454.008	49775.756	53317.996	57092.610	61111.835	65388.247	69934.726	74764.459	79690.908
CONTRIBUTIONS OF AGRICULTURE AND INDUSTRY TO GDP										
329 YA/GDP	0.267	0.258	0.250	0.243	0.236	0.229	0.222	0.216	0.210	0.204
253 YI/GDP	0.202	0.206	0.208	0.211	0.213	0.215	0.218	0.220	0.222	0.224
GOVERNMENT ACCOUNTS (MILLIONS OF PESOS-1972 PRICES)										
285 GRC	28658.900	28853.702	30967.635	39150.921	45670.411	52908.117	56684.171	60698.181	64962.272	69488.327
286 GCC	13826.800	14241.604	14668.852	15108.918	15562.185	16029.051	16509.922	17005.220	17515.377	18040.838
287 GTRC	5571.800	3987.649	4107.279	4230.497	4357.412	4488.134	4622.778	4761.462	4904.305	5051.835
288 GSC	9260.300	10624.449	12191.505	19611.506	25750.814	32390.932	35551.471	38931.500	42542.590	46396.054
289 PUINV	13562.570	14860.366	16397.555	17719.792	19132.594	20640.793	22249.220	23963.030	25787.312	27727.204
290 GDFC	4302.270	4235.917	4206.050	-2091.714	-6618.220	-11750.139	-13302.251	-14968.469	-16755.278	-18668.790
GOVERNMENT DEFICIT IN CURRENT DOLLARS (- INDICATES A SURPLUS)										
254 GDEFIC	195.487	231.928	262.534	-144.792	-492.255	-939.064	-1142.516	-1361.166	-1661.211	-1961.977
NATIONAL ACCOUNTS (MILLIONS OF DOLLARS - 1972 PRICES AND EXCH. RATES)										
205 GDP	8410.350	9021.466	9666.557	10354.467	11087.505	11868.047	12698.535	13581.471	14519.416	15514.983
156 TTADJ	8.780	36.258	-13.161	-29.385	-35.979	-42.153	-49.282	-57.952	-59.486	-59.790
217 GDY	8419.130	9057.724	9653.396	10325.082	11051.526	11825.894	12649.254	13523.519	14459.929	15455.193
215 M	1260.285	1399.239	1532.153	1644.313	1768.560	1902.726	2048.968	2204.223	2368.806	2543.014
155 X	-1154.300	-1261.527	-1304.722	-1409.382	-1560.856	-1740.767	-1924.554	-2113.021	-2268.287	-2487.001
157 XTADJ	-1163.080	-1297.785	-1291.561	-1379.997	-1524.077	-1698.634	-1875.272	-2055.068	-2228.800	-2427.211
220 KG	97.205	101.454	240.592	264.317	243.683	204.093	173.696	149.155	140.006	115.803
222 PC	6153.803	6814.568	7132.671	7638.847	8143.225	8663.734	9228.956	9836.767	10507.333	11206.167
308 GC	628.262	647.110	666.524	686.519	707.115	728.328	750.178	772.684	795.864	819.740
214 I	1581.459	1714.352	1898.550	2053.822	2219.778	2396.986	2586.017	2787.480	3001.975	3230.114
211 INVCH	152.810	183.148	196.244	210.210	225.091	240.937	257.796	275.722	294.764	314.975
245 RA	8516.335	9159.178	9893.988	10589.399	11295.209	12029.986	12822.949	13672.674	14599.935	15570.996
223 GDS	1637.065	1796.045	1854.202	1999.716	2201.186	2433.831	2670.119	2914.048	3156.733	3429.286
195 FSY	-86.400	-168.174	-112.933	-113.149	-119.237	-126.843	-135.787	-144.544	-156.114	-170.500

194 NCT	35.000	35.685	2.758	30.195	29.323	427	27.514	26.592	25.664	25.076
224 GNS	1585.665	1663.556	1774.021	1916.762	2111.272	2335.415	2561.646	2796.095	3026.283	3283.662
218 GNP	8323.950	8853.292	9553.618	10241.319	10968.268	11741.204	12562.748	13436.927	14363.302	15344.482
219 GNY	8332.730	8889.550	9540.458	10211.933	10932.289	11699.050	12513.466	13376.975	14303.816	15284.692

BALANCE OF PAYMENTS (MILLIONS OF DOLLARS AT CURRENT PRICES)

61 EXPURT	1163.080	1563.831	1774.217	2102.333	2496.115	2987.693	3544.109	4173.260	4863.251	5613.955
216 IMPURT	1260.285	1686.083	2104.719	2505.001	2895.007	3346.667	3872.380	4476.150	5168.745	5881.799
225 RESBAL	-97.205	-122.252	-330.502	-402.669	-398.892	-358.974	-328.271	-302.891	-305.493	-267.844
191 NETINT	0.000	-147.850	-77.144	-92.374	-114.182	-139.102	-166.627	-197.529	-238.641	-287.354
142 INTPUB	0.000	-81.100	-87.447	-105.940	-131.272	-160.094	-191.970	-227.683	-274.078	-328.512
62 NETDII	-86.400	-54.800	-78.000	-80.000	-81.000	-84.000	-90.000	-96.000	-102.000	-107.000
64 WKKRMT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
192 NETFSY	-86.400	-202.650	-155.144	-172.374	-195.182	-223.102	-256.627	-293.529	-340.641	-394.354
65 NETTRN	35.000	43.000	45.000	46.000	48.000	50.000	52.000	54.000	56.000	58.000
66 OFFCUR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
226 CURBAL	-148.605	-261.902	-440.645	-529.043	-546.075	-532.077	-532.697	-542.419	-590.135	-604.198
63 NETDFI	-0.000	-12.400	71.000	30.000	32.000	38.000	46.000	54.000	62.000	70.000
193 CAPGGL	0.000	0.000	0.000	14.300	6.900	4.000	0.000	0.000	0.000	0.000
122 DBTPUB	0.000	341.000	409.574	465.390	511.128	565.996	686.426	831.292	1010.539	1181.560
127 AMTPUB	0.000	-112.600	-130.720	-128.381	-142.683	-161.544	-207.596	-243.927	-302.408	-376.148
137 NETPUB	0.000	228.400	278.854	337.009	368.445	404.452	478.831	587.365	708.131	805.412
123 DBTOLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34 AMTOLT	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
138 NETOLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
213 SHTERM	291.605	95.985	156.027	218.203	216.773	172.664	104.294	6.706	-65.582	-146.864
69 CAPNEI	-0.000	32.994	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000
212 CHGRES	-143.000	-63.076	-65.236	-70.469	-78.043	-87.039	-96.220	-105.651	-114.414	-124.350

TERMS OF TRADE (AVERAGE 1972 = 100)

71 XPRICE	100.761	123.963	135.984	149.167	159.920	171.629	184.152	197.502	212.528	225.732
72 MPRICE	100.000	120.500	137.370	152.343	163.693	175.888	188.992	203.072	218.200	231.292
154 TTINOX	100.761	102.874	98.991	97.915	97.695	97.578	97.439	97.257	97.400	97.596

DETAIL ON ASSISTANCE FLOWS (MILLIONS OF DOLLARS AT CURRENT PRICES)

63 NETDFI	-0.000	-12.400	71.000	30.000	32.000	38.000	46.000	54.000	62.000	70.000
62 NETDII	-86.400	-54.800	-78.000	-80.000	-81.000	-84.000	-90.000	-96.000	-102.000	-107.000
110 NTRDFI	-86.400	-67.200	-7.000	-50.000	-49.000	-46.000	-44.000	-42.000	-40.000	-37.000
66 OFFCUR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
67 OFFCAP	-0.000	-0.000	-0.000	14.300	6.900	4.000	-0.000	0.000	0.000	0.000
111 DBTLCT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112 DBTGGL	0.000	0.000	0.000	14.300	6.900	4.000	0.000	0.000	0.000	0.000
113 DBTWBK	0.000	78.366	87.051	103.480	116.215	131.374	153.799	180.567	207.918	230.536
11 AMTWBK	-0.000	-24.800	-28.700	-32.500	-34.400	-34.400	-40.534	-44.367	-51.624	-58.779
128 NETWBK	0.000	53.566	58.351	70.980	81.815	96.974	113.265	136.200	156.294	171.757
21 INTWBK	-0.000	-35.900	-30.353	-33.289	-38.727	-45.085	-52.903	-61.653	-72.198	-84.052

138 NETOLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35 INTOLT	0.000	-73.900	0.000	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
153 NITOLT	0.000	-73.900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

COMMITMENTS OF PUBLIC AND GRANT-LIKE LOANS (MILLIONS OF CURRENT DOLLARS)

98 COMWBK	0.000	162.200	95.500	177.500	160.000	230.000	250.000	270.000	300.000	330.000
99 COMIDA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100 COMOID	0.000	29.100	105.700	100.000	110.000	120.000	130.000	140.000	160.000	180.000
101 COMIDT	0.000	191.300	201.200	277.500	270.000	350.000	380.000	410.000	460.000	510.000
102 COMGVT	0.000	73.800	118.500	70.000	55.000	55.000	55.000	55.000	59.300	62.700
103 COMSCT	0.000	23.570	80.000	90.000	122.000	130.000	201.000	273.000	355.000	440.000
104 COMFIN	0.000	87.900	75.000	70.000	90.000	95.000	100.000	130.000	175.000	220.000
105 COMBND	0.000	45.000	0.000	30.000	40.000	50.000	60.000	70.000	85.000	90.000
106 COMNEI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107 COM PUB	0.000	421.570	474.700	537.500	577.000	660.000	796.000	936.000	1134.300	1322.700
56 COMLCI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
57 COMLCG	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
108 COMLCT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

DEBT OUTSTANDING AND DISBURSED (END YEAR IN MILLIONS OF CURRENT DOLLARS)

158 DCOMBK	453.500	507.056	565.417	636.397	718.212	615.186	928.451	1064.651	1220.945	1392.703
159 DCOMIDA	20.900	20.700	20.500	20.300	20.100	19.900	19.700	19.500	19.300	18.800
160 DCOMOID	85.500	105.010	149.210	223.540	287.245	361.810	451.343	551.210	661.463	783.132
161 DCOMIDT	559.900	632.776	735.127	860.237	1025.557	1196.896	1399.494	1635.361	1901.708	2194.635
162 DCOMGVT	765.500	860.360	926.795	980.655	1022.215	1062.867	1096.075	1122.825	1142.799	1162.248
163 DCOMSCT	109.300	130.788	178.556	235.595	302.560	363.424	477.068	634.334	838.414	1075.225
164 DCOMDFIN	156.800	155.300	220.500	274.500	352.200	436.999	517.611	620.149	760.034	936.366
165 DCOMBND	14.000	57.000	55.700	64.400	123.099	171.798	222.566	269.710	369.855	452.249
166 DCOMNEI	20.200	17.876	16.276	14.576	12.776	10.876	8.876	6.676	4.376	1.876
167 DCOM PUB	1625.700	1854.100	2132.954	2469.963	2838.407	3242.860	3721.690	4309.055	5017.186	5822.598
168 DCOMOLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

WORLD BANK SHARE OF PUBLIC LOANS (PER CENT OF TOTAL)

172 WBS COM	0.000	38.475	20.118	33.023	27.730	33.824	31.407	26.785	26.448	24.949
173 WBS DBT	0.000	22.981	21.254	22.235	22.737	23.211	22.406	21.721	20.575	19.511
174 WBS NET	0.000	23.453	20.925	21.062	22.206	23.977	23.655	23.188	22.071	21.325
175 WBS NTR	0.000	11.923	14.628	16.311	18.167	21.235	21.042	20.726	19.375	18.391
176 WBS SDS	0.000	31.337	27.068	28.077	26.693	24.713	23.385	22.480	21.479	20.269
177 WBS DDD	0.000	27.348	26.509	25.765	25.303	25.138	24.947	24.707	24.335	23.919

IDA SHARE OF PUBLIC LOANS (PER CENT OF TOTAL)

178 IDS COM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
179 IDS DBT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180 IDS NET	0.000	-0.088	-0.072	-0.059	-0.054	-0.049	-0.042	-0.034	-0.028	-0.062
181 IDS NTR	0.000	-0.339	-0.209	-0.173	-0.169	-0.164	-0.139	-0.111	-0.092	-0.147
182 IDS SDS	0.000	0.258	0.183	0.171	0.146	0.124	0.100	0.085	0.069	0.099
183 IDS DDD	0.000	1.116	0.961	0.822	0.708	0.614	0.529	0.453	0.385	0.323

BANK GROUP SHARE OF PUBLIC LOANS (PER CENT OF TOTAL)

164 BGS COM	0.000	38.475	21.118	33.023	27.730	33.024	31.407	28.785	26.448	24.949
185 BGS DBT	0.000	22.981	21.254	22.235	22.737	23.211	22.406	21.721	20.575	19.511
186 BGS NET	0.000	23.365	20.654	21.002	22.151	23.927	23.613	23.154	22.043	21.253
187 BGS NTR	0.000	11.654	14.419	16.138	17.999	21.071	20.903	20.615	19.283	18.244
188 BGS DS	0.000	31.595	27.251	28.247	26.839	24.837	23.465	22.565	21.548	20.369
189 BGS DDD	0.000	28.465	27.470	26.587	26.011	25.752	25.476	25.160	24.720	24.242

 SELECTED INDICATORS (IN PER CENT)

196 USRADJ	0.000	12.386	12.297	11.146	10.975	10.765	11.274	11.301	11.854	12.552
227 DBTA/M	0.000	17.053	15.450	14.586	13.165	12.580	13.594	14.103	14.521	14.818
197 INT/DD	0.000	4.989	4.716	4.967	5.315	5.640	5.920	6.118	6.361	6.548
198 AMT/DD	0.000	6.926	7.050	6.019	5.777	5.691	6.402	6.554	7.018	7.497
199 DS/DDD	0.000	11.915	11.767	10.986	11.091	11.332	12.321	12.672	13.378	14.045

 BASIC NATIONAL ACCOUNTS RATIOS

233 M/GDP	0.000	15.510	15.850	15.880	15.951	16.032	16.135	16.230	16.315	16.391
234 X/GDP	0.000	13.984	13.497	13.611	14.078	14.668	15.156	15.558	15.760	16.030
235 C/GDY	0.000	80.171	80.792	80.632	80.083	79.419	78.891	78.452	78.169	77.811
236 I/GDY	0.000	20.949	21.700	21.927	22.122	22.306	22.482	22.651	22.799	22.938
237 DS/GDY	0.000	19.829	19.208	19.368	19.917	20.551	21.109	21.548	21.831	22.189
238 NS/GNY	0.000	18.714	18.595	18.770	19.312	19.962	20.473	20.899	21.157	21.465

 NATIONAL ACCOUNTS GROWTH RATES

205 GDP	0.000	7.266	7.151	7.116	7.079	7.040	6.998	6.953	6.906	6.857
217 GUY	0.000	7.585	6.576	6.958	7.036	7.007	6.962	6.912	6.924	6.883
215 M	0.000	11.026	9.499	7.320	7.556	7.586	7.686	7.577	7.467	7.354
155 X	0.000	9.289	3.424	8.022	10.748	11.528	10.557	9.793	8.295	8.684
157 XTTADJ	0.000	11.582	10.480	6.847	10.499	11.395	10.399	9.588	8.454	8.902
222 PC	0.000	7.487	7.833	7.097	6.603	6.392	6.524	6.586	6.817	6.651
214 I	0.000	8.403	10.744	8.176	8.080	7.983	7.886	7.790	7.695	7.600
223 GDS	0.000	9.711	3.238	7.848	10.075	10.569	9.708	9.136	8.328	8.634
224 GNS	0.000	4.912	6.640	8.046	10.148	10.616	9.696	9.144	8.232	8.511
218 GNP	0.000	6.359	7.910	7.196	7.098	7.047	6.997	6.958	6.894	6.831
219 GNY	0.000	6.682	7.322	7.038	7.054	7.014	6.961	6.917	6.913	6.857

 TRADE, AID, AND DEBT GROWTH RATES

61 EXPORT	0.000	34.456	13.453	18.494	18.731	19.694	18.624	17.752	16.534	15.436
216 IMPORT	0.000	33.786	24.829	19.018	15.569	15.601	15.709	15.592	15.473	13.795
192 NETFSY	0.000	134.549	23.443	11.106	13.232	14.305	15.026	14.360	16.050	15.768
107 COM PUB	0.000	0.000	12.603	13.229	7.349	17.851	17.059	17.839	20.928	16.609
122 DST PUB	0.000	0.000	20.110	13.628	9.828	10.735	21.278	21.104	21.563	16.924
137 NET PUB	0.000	0.000	22.090	20.655	9.328	9.773	10.390	22.686	20.561	13.738
167 DDD PUB	0.000	14.049	15.040	15.600	14.917	14.249	14.766	15.782	16.434	16.053

 EX ANTE AND EX POST PARAMETER VALUES

201 MINMEL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
239 M-ELAS	0.000	1.517	1.328	1.029	1.067	1.078	1.098	1.090	1.081	1.073	
203 MAXMSR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240 GNS-MR	0.000	0.140	0.170	0.213	0.270	0.292	0.276	0.271	0.249	0.263	
241 ICDRXA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
242 ICDRXP	0.000	2.588	2.656	2.760	2.802	2.844	2.886	2.929	2.972	3.015	

TEST OF INDGST (REQUIREMENTS MODELS)

228 INDGST	291.605	95.985	156.027	218.203	216.773	172.664	104.294	6.706	-65.582	-146.364	
231 TEST-1	0.000	28.148	38.095	46.886	42.411	30.506	15.194	0.807	-6.490	-12.430	
229 CUMIST	291.605	387.590	543.617	761.820	978.593	1151.257	1255.551	1262.257	1196.675	1049.811	
232 TEST-2	0.000	113.663	72.427	62.652	58.661	50.206	42.139	33.123	24.820	17.468	
243 INTIST	0.000	14.580	19.379	27.161	38.091	48.930	57.563	62.778	63.113	59.834	
244 USHIST	0.000	0.932	1.092	1.293	1.526	1.638	1.624	1.504	1.298	1.066	

AVERAGE LOAN TERMS AND GRANT ELEMENT

1 MAT.	0.000	17.641	20.196	18.512	17.130	17.350	16.366	15.523	14.971	14.563	
2 INT.	0.000	0.078	0.071	0.070	0.072	0.072	0.072	0.073	0.074	0.075	
3 GRACE	0.000	4.950	5.298	4.935	4.634	4.668	4.281	4.186	4.074	3.981	
4 GR-EL.	0.000	13.625	20.905	19.143	16.570	16.493	15.696	14.492	13.602	12.999	
5 (1)	0.000	13.625	20.905	19.143	16.570	16.493	15.696	14.492	13.602	12.999	

(1) GRANT ELEMENT, GRANTS EXCLUDED

	1982	1983	1984	1985	1986	1987	1988	1989	1990
NATIONAL ACCOUNTS (MILLIONS OF COLOMBIAN PESOS-1958 PRICES)									
326 PCC	64588.215	68769.151	73189.024	77958.272	83193.185	89062.092	95353.336	102098.116	109330.000
327 GCC	3460.347	3564.157	3671.082	3781.215	3894.051	4011.490	4131.835	4255.790	4383.464
268 FIC	16721.207	17980.242	19333.707	20768.795	22353.221	24035.289	25843.937	27788.786	29880.192
270 INVCH	1877.211	2005.339	2142.612	2289.701	2447.333	2616.284	2797.391	2991.555	3199.741
277 XC	15394.614	16798.766	18365.614	20114.069	21750.477	23545.935	25515.489	27676.692	30048.772
328 MC	-16490.210	-17691.833	-18978.582	-20356.759	-21949.642	-23867.060	-25970.000	-28276.930	-30808.189
252 GUPC	85327.770	91151.705	97391.438	104077.339	111242.397	118921.907	127154.143	135979.756	145442.792

CONTRIBUTIONS OF AGRICULTURE AND INDUSTRY TO GDP

329 YA/GDP	0.199	0.194	0.189	0.184	0.179	0.174	0.170	0.165	0.161
253 YI/GDP	0.226	0.227	0.229	0.231	0.233	0.235	0.236	0.238	0.240

GOVERNMENT ACCOUNTS (MILLIONS OF PESOS-1972 PRICES)

285 GRC	74288.441	79430.366	84939.250	90842.120	97168.029	103948.210	111216.242	119006.227	127362.982
286 GCC	18582.063	19139.525	19713.711	20305.122	20914.276	21541.704	22187.955	22853.594	23539.201
287 GTRC	5202.978	5359.067	5519.839	5685.434	5855.997	6031.677	6212.627	6399.006	6590.976
288 GSC	50503.401	54931.774	59705.701	64851.564	70397.756	76374.629	82815.659	89755.627	97232.805
289 PUINV	30119.208	32365.649	34779.824	37374.472	40163.257	43160.890	46383.199	49847.223	53571.298
290 GUEFC	-20384.193	-22566.126	-24925.877	-27477.092	-30234.499	-33213.939	-36432.460	-39908.404	-43661.506

GOVERNMENT DEFICIT IN CURRENT DOLLARS (* INDICATES A SURPLUS)

254 GUEFC	-2270.776	-2664.671	-3119.948	-3645.645	-4252.134	-4951.461	-5757.148	-6684.811	-7752.305
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

NATIONAL ACCOUNTS (MILLIONS OF DOLLARS - 1972 PRICES AND EXCH. RATES)

205 GDP	16570.833	17701.869	18913.623	20212.039	21603.508	23094.901	24693.603	26407.555	28245.297
156 ITADJ	-60.055	-60.276	-60.447	-60.560	-60.722	-60.835	-60.894	-60.893	-60.824
217 GDY	16510.778	17641.593	18853.176	20151.478	21542.786	23034.065	24632.708	26346.663	28184.473
215 M	2746.120	2946.227	3160.510	3390.018	3655.282	3974.590	4324.793	4708.967	5130.499
155 X	-2708.521	-2955.568	-3231.190	-3536.799	-3826.763	-4142.617	-4489.136	-4889.374	-5286.687
157 XITADJ	-2648.466	-2895.292	-3170.743	-3478.236	-3766.041	-4081.781	-4428.242	-4808.481	-5225.863
220 RG	97.654	50.935	-10.233	-68.220	-110.759	-107.191	-103.449	-99.514	-95.364
222 PC	11912.194	12683.296	13490.446	14359.630	15343.563	16425.983	17586.295	18830.255	20164.053
308 GC	844.332	869.662	895.752	922.625	950.303	976.812	1003.177	1036.422	1069.575
214 I	3515.495	3780.197	4064.752	4370.672	4699.580	5053.221	5433.474	5842.362	6282.063
211 INVCH	336.410	359.372	383.972	410.332	438.581	468.858	501.314	538.109	573.418
245 RA	16608.432	17692.528	18842.943	20063.258	21432.027	22926.874	24529.260	26247.149	28069.109
223 GDS	3754.252	4088.634	4458.957	4869.224	5248.919	5629.270	6036.236	6477.985	6950.845
195 FSY	-186.200	-202.939	-220.663	-239.174	-258.280	-277.050	-294.868	-310.802	-325.309

194 NCT	24.473	23.057	23.233	22.603	21.969	21.335	20.703	20.074	19.449
224 GWS	3592.524	3909.552	4261.527	4652.653	5012.609	5373.555	5764.271	6187.257	6644.985
218 GNP	16384.633	17498.930	18692.959	19972.865	21345.228	22817.850	24396.934	26096.753	27919.988
219 GNY	16324.578	17438.654	18632.513	19912.304	21284.506	22757.015	24338.040	26035.861	27559.164

BALANCE OF PAYMENTS (MILLIONS OF DOLLARS AT CURRENT PRICES)

61 EXPORT	6493.244	7524.290	8734.541	10154.503	11656.703	13392.028	15400.484	17726.223	20420.774
216 IMPORT	6732.663	7656.680	8706.351	9898.899	11313.820	13040.341	15040.692	17359.371	20048.125
225 RESBAL	-239.419	-132.369	28.190	257.604	342.623	351.657	359.771	366.652	372.649
191 NETINT	-342.507	-406.558	-479.777	-562.616	-655.508	-756.424	-863.082	-974.342	-1089.491
142 INTPOB	-389.382	-460.705	-541.312	-632.224	-730.969	-844.452	-961.466	-1083.949	-1211.271
62 NETLII	-114.000	-120.840	-128.090	-135.776	-143.922	-152.558	-161.711	-171.414	-181.699
64 WRRRMT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
192 NETFSY	-456.507	-527.398	-607.667	-696.392	-799.431	-908.982	-1024.793	-1145.756	-1271.190
65 NETTRN	60.000	62.000	64.000	66.000	68.000	70.000	72.000	74.000	76.000
66 OFFCUR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
226 CURBAL	-635.926	-597.768	-515.678	-374.786	-388.608	-487.295	-593.022	-704.904	-822.541
63 NETDFI	80.000	86.000	96.800	106.480	117.128	128.841	141.725	155.897	171.467
193 CAPGGL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
122 DBTPUB	1379.573	1611.699	1873.307	2147.833	2416.899	2671.012	2930.652	3195.857	3445.280
127 AMTPUB	-469.175	-583.175	-716.443	-863.005	-1018.745	-1198.049	-1390.268	-1584.989	-1805.645
137 NETPUB	910.397	1028.724	1156.864	1284.829	1398.153	1472.963	1540.384	1610.868	1639.635
123 DBTOLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34 AMTOLT	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
138 NETOLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.000	0.000
213 SHTERM	-219.045	-371.178	-576.427	-829.581	-935.335	-907.378	-864.610	-818.393	-724.247
69 CAPNEI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
212 CHGRES	-135.426	-147.778	-161.559	-176.940	-191.338	-207.131	-224.457	-243.469	-264.334

TERMS OF TRADE (AVERAGE 1972 = 100)

71 XPRICE	239.734	254.580	270.320	267.004	304.610	323.275	343.061	364.035	386.268
72 WPRICE	245.170	259.880	275.473	292.001	309.521	328.093	347.778	366.645	390.764
154 TIINDX	97.783	97.961	98.129	98.289	98.413	98.531	98.644	98.749	98.849

DETAIL ON ASSISTANCE FLOWS (MILLIONS OF DOLLARS AT CURRENT PRICES)

63 NETDFI	80.000	86.000	96.800	106.480	117.128	128.841	141.725	155.897	171.467
62 NETDII	-114.000	-120.840	-128.090	-135.776	-143.922	-152.558	-161.711	-171.414	-181.699
110 NTRDFI	-34.000	-32.840	-31.290	-29.296	-26.794	-23.717	-19.986	-15.516	-10.212
66 OFFCUR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
67 OFFCAP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
111 DBTLCT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112 DBTGGL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
113 DBTWBK	260.609	297.835	317.550	348.400	382.100	417.500	456.200	496.600	544.900
11 AMTWBK	-70.464	-81.458	-94.266	-103.747	-119.347	-135.920	-153.137	-170.823	-197.400
128 NETWBK	190.145	206.377	223.284	244.653	262.753	281.579	303.063	327.776	347.500
21 INTWBK	-97.042	-111.398	-126.806	-143.515	-161.582	-180.830	-201.330	-223.257	-246.643

138 NETOLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35 INTOLT	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
153 NTROLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

COMMITMENTS OF PUBLIC AND GRANT-LIKE LOANS (MILLIONS OF CURRENT DOLLARS)

98 CUMWBK	360.000	390.000	430.000	470.000	510.000	560.000	610.000	670.000	730.000
99 CUMIDA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100 CUMDIO	200.000	220.000	240.000	260.000	290.000	320.000	350.000	380.000	420.000
101 CUMIOT	560.000	610.000	670.000	730.000	800.000	880.000	960.000	1050.000	1150.000
102 CUMGVT	66.600	70.400	74.300	79.200	83.800	89.000	94.200	100.000	106.100
103 CUMSCT	530.000	650.000	780.000	900.000	1040.000	1150.000	1260.000	1380.000	1488.000
104 CUMFIN	270.000	330.000	400.000	480.000	540.000	610.000	680.000	740.000	790.000
105 CUMBND	100.000	110.000	120.000	140.000	150.000	160.000	170.000	180.000	190.000
106 CUMNEI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107 CUM PUB	1526.600	1770.400	2044.300	2329.200	2613.600	2889.000	3164.200	3450.000	3724.100
56 CUMLCI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
57 CUMLCG	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
108 CUMLCT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

DEBT OUTSTANDING AND DISBURSED (END YEAR IN MILLIONS OF CURRENT DOLLARS)

158 DUDWBK	1582.648	1789.224	2012.508	2257.160	2519.914	2801.493	3104.556	3432.332	3779.833
159 DUDIDA	18.100	17.400	16.700	16.000	15.300	14.600	13.900	13.200	12.500
160 DUDDIO	918.535	1066.975	1228.536	1403.796	1593.589	1799.381	2022.008	2261.735	2519.252
161 DUDIOT	2519.483	2873.600	3257.743	3676.958	4128.802	4615.474	5140.464	5707.268	6311.584
162 DUDGVT	1182.735	1195.185	1206.754	1219.738	1233.960	1249.593	1268.554	1290.333	1315.470
163 DUDSCT	1338.516	1642.364	1986.568	2349.885	2746.516	3136.548	3513.735	3890.740	4257.024
164 DUDFIN	1152.016	1415.964	1733.972	2111.107	2531.717	2996.959	3500.700	4025.693	4552.565
165 DUDBND	541.070	635.431	734.370	846.547	961.094	1076.779	1192.202	1312.551	1429.575
166 DUDNEI	-0.824	-0.824	-0.824	-0.824	-0.824	-0.824	-0.824	-0.824	-0.824
167 DUD PUB	6732.995	7761.719	8918.583	10203.412	11601.565	13074.528	14614.892	16225.759	17865.394
168 DUDULT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

WORLD BANK SHARE OF PUBLIC LOANS (PER CENT OF TOTAL)

172 WBS COM	23.582	22.029	21.034	20.179	19.512	19.384	19.278	19.420	19.602
173 WBS OBT	18.891	17.857	16.951	16.221	15.810	15.631	15.566	15.601	15.616
174 WBS NET	20.886	20.061	19.301	19.042	18.793	19.117	19.675	20.348	21.194
175 WBS NTR	17.887	16.721	15.673	15.490	15.232	16.030	17.574	19.636	23.545
176 WBS SCS	19.499	18.475	17.577	16.537	16.028	15.503	15.072	14.765	14.718
177 WBS DDD	23.509	23.052	22.565	22.122	21.720	21.427	21.242	21.154	21.157

IDA SHARE OF PUBLIC LOANS (PER CENT OF TOTAL)

178 IUS COM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
179 IUS OBT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180 IUS NET	-0.077	-0.086	-0.061	-0.054	-0.050	-0.048	-0.045	-0.043	-0.043
181 IUS NTR	-0.173	-0.158	-0.130	-0.123	-0.120	-0.127	-0.138	-0.152	-0.187
182 IUS SCS	0.105	0.086	0.064	0.054	0.046	0.039	0.034	0.030	0.027
183 IUS DDD	0.269	0.224	0.187	0.157	0.132	0.112	0.095	0.081	0.070

BANK GROUP SHARE OF PUBLIC LOANS (PER CENT OF TOTAL)

184 BGS COM	23.582	22.029	20.034	20.179	19.512	19.634	19.278	19.420	19.602
185 BGS DBT	18.891	17.857	16.951	16.221	15.610	15.631	15.566	15.601	15.816
186 BGS NET	20.809	19.993	19.240	18.987	18.743	19.069	19.629	20.304	21.151
187 BGS NTR	17.714	16.563	15.543	15.375	15.112	15.903	17.435	19.664	23.358
188 BGS DS	19.604	18.561	17.640	16.590	16.074	15.547	15.106	14.795	14.745
189 BGS DOD	23.778	23.276	22.753	22.278	21.652	21.539	21.335	21.235	21.227

SELECTED INDICATORS (IN PER CENT)

196 USRADJ	13.230	13.873	14.400	14.722	15.036	15.252	15.271	15.056	14.774
227 DBTA/M	14.995	15.306	15.544	15.434	15.264	14.578	13.834	13.110	12.297
197 INT/DO	6.696	6.842	6.974	7.089	7.193	7.279	7.354	7.417	7.465
198 AMT/DO	8.058	8.661	9.230	9.676	9.984	10.327	10.634	10.845	11.128
199 DS/DO	14.754	15.504	16.205	16.765	17.178	17.605	17.987	18.262	18.593

BASIC NATIONAL ACCOUNTS RATIOS

233 M/GDP	16.572	16.644	16.710	16.772	16.920	17.210	17.514	17.832	18.164
234 X/GDP	16.345	16.696	17.084	17.508	17.714	17.937	18.179	18.439	18.717
235 C/GDY	77.262	76.824	76.349	75.837	75.635	75.561	75.487	75.413	75.338
236 I/GDY	23.330	23.435	23.597	23.725	23.851	23.974	24.093	24.210	24.324
237 DS/GDY	22.738	23.176	23.651	24.163	24.365	24.439	24.513	24.587	24.662
238 NS/GNY	22.007	22.419	22.871	23.368	23.551	23.613	23.684	23.764	23.852

NATIONAL ACCOUNTS GROWTH RATES

205 GDP	6.805	6.825	6.845	6.865	6.884	6.903	6.922	6.941	6.959
217 GDY	6.830	6.849	6.868	6.886	6.904	6.922	6.940	6.958	6.975
215 M	7.987	7.287	7.273	7.262	7.255	6.736	6.811	6.883	6.952
155 X	8.907	9.121	9.325	9.520	8.137	8.254	8.365	8.470	8.570
157 X/TADJ	9.116	9.320	9.514	9.698	8.274	8.384	8.488	8.587	8.680
222 PC	6.300	6.473	6.427	6.380	6.852	7.055	7.064	7.073	7.083
214 I	8.835	7.530	7.528	7.520	7.525	7.525	7.525	7.525	7.526
223 GDS	9.476	8.907	9.057	9.201	7.798	7.246	7.265	7.283	7.299
224 GNS	9.399	6.825	9.003	9.178	7.737	7.201	7.271	7.338	7.398
218 GNP	6.779	6.801	6.823	6.847	6.871	6.899	6.929	6.959	6.986
219 GNY	6.803	6.825	6.846	6.869	6.891	6.918	6.947	6.976	7.003

TRADE, AID, AND DEBT GROWTH RATES

61 EXPORT	15.663	15.879	16.085	16.280	14.771	14.887	14.997	15.102	15.201
216 IMPORT	14.466	13.724	13.710	13.697	14.294	15.260	15.340	15.416	15.489
192 NETFSY	15.761	15.529	15.258	14.892	14.467	13.704	12.741	11.804	10.948
107 COMFUB	15.415	15.970	15.471	13.936	12.219	10.529	9.526	9.032	7.945
122 DBTPUB	16.759	16.840	16.217	14.655	12.527	10.514	9.721	9.049	7.805
137 NETPUB	13.035	12.997	12.456	11.061	8.620	5.351	4.576	4.577	1.786
167 UDDPUB	15.636	15.279	14.905	14.406	13.703	12.696	11.781	11.022	10.105

EX ANTE AND EX POST PARAMETER VALUES

201 MINREL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
239 M-ELAS	1.174	1.068	1.062	1.058	1.137	1.265	1.273	1.280	1.286
203 MAXMSR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240 GNS-MR	0.297	0.285	0.295	0.308	0.262	0.245	0.247	0.249	0.251
241 ICORXA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
242 ICORXP	3.059	3.108	3.120	3.131	3.141	3.151	3.161	3.170	3.179

TEST OF INDGST (REQUIREMENTS MODELS)

228 INDGST	-219.045	-371.178	-576.427	-839.581	-935.335	-907.378	-864.610	-816.393	-724.247
231 TEST#1	-15.878	-23.027	-30.771	-39.090	-38.700	-33.971	-29.502	-25.608	-21.021
229 COMIST	830.765	459.528	-116.839	-958.420	-1851.756	-2759.138	-3853.744	-4485.137	-5206.283
232 TEST#2	11.253	5.110	-1.075	-7.348	-12.258	-15.482	-17.418	-18.498	-18.812
243 INTIST	52.481	41.538	22.979	-5.842	-47.821	-94.588	-129.957	-183.187	-224.107
244 DSRIST	0.808	0.552	0.263	-0.050	-0.410	-0.706	-0.909	-1.033	-1.097

AVERAGE LOAN TERMS AND GRANT ELEMENT

1 MAT.	14.224	13.801	13.466	13.250	13.066	13.023	12.989	12.961	12.999
2 INT.	0.075	0.076	0.076	0.077	0.077	0.077	0.077	0.077	0.077
3 GRACE	3.909	3.612	3.739	3.705	3.655	3.651	3.648	3.639	3.643
4 GR-EL.	12.468	11.892	11.381	10.928	10.789	10.660	10.558	10.533	10.632
5 (1)	12.468	11.892	11.381	10.928	10.789	10.660	10.558	10.533	10.632

(1) GRANT ELEMENT, GRANTS EXCLUDED.

F. Summary of the Model and Symbols

Colombia Model

Sectoral Output

$$COFE_t = COFE_{t-1}(1 + \varepsilon_{cof})$$

$$YCOF_t = \alpha_1 COFE_t$$

$$YNCOF_t = YNCOF_{t-1}(1 + \varepsilon_{ncof})$$

$$YAGR_t = YCOF_t + YNCOF_t$$

$$YIND_t = YIND_{t-1}(1 + \varepsilon_{ind})$$

$$YTRAN_t = 148.21 + .2983 YIND_t$$

$$GDP_t = -1142.88 + 3.2638 YIND_t + 1.4405 YAGR_t$$

$$GNP = GDP_t + FSY_t$$

$$GDY_t = GDP_t + TTADJ_t$$

exogenous: $\varepsilon_{cof}, \alpha_1, \varepsilon_{ncof}, \varepsilon_{ind}, FSY, TTADJ$

Investment

$$ICORFI_t = .01 + .2440/GR(GDP - YAGR)_t$$

$$ICORIM_t = .3181/GR(YIND + YTRAN)_t$$

$$FI_t = ICORFI_t \Delta (GDP - YAGR)_{t+1}$$

$$IM_t = ICORIM \Delta (YIND + YTRAN)_{t+1}$$

Changes in Inventories

$$INVCH_t = \alpha_2 GDP_t$$

exogenous: α_2

Imports

$$MCAP_t = -126.55 + .6398 IM_t$$

$$\text{Log}(MINTI_t) = .8408 \text{Log}(YIND_t)$$

$$MCO_t = -140.95 + .0194 PC_t + 99.05 \frac{RES_{t-1}}{MPRICE_{t-1}}$$

Imports (Cont.)

$$RES_t = RES_{t-1} + \Delta RES_t$$

$$\Delta RES_t = .70 \Delta RES_t$$

$$M_t = 215.90 + 1.6041 (MCAP_t + MINTI_t + MCO_t)$$

exogenous: MPRICE

Exports

$$XCOFE_t = \alpha_3 COFE_t$$

$$XCOF_t = \alpha_4 XCOFE_t$$

$$XMIN_t = XMIN_{t-1} (1 + \epsilon_{xmin})$$

$$XOIL_t = XOIL_{t-1} (1 + \epsilon_{xoil})$$

$$XNFS_t = XNFS_{t-1} (1 + \epsilon_{xnfs})$$

$$X_t = XCOF_t + XMIN_t + XOIL_t + XNFS_t$$

$$XTTADJ_t = X_t + TTADJ_t$$

exogenous: $\alpha_3, \alpha_4, \epsilon_{xmin}, \epsilon_{xoil}, \epsilon_{xnfs}, TTADJ$

Consumption and Savings

$$PC_t = \alpha_5 DI_t$$

$$DI_t = PI_t - DHT_t$$

$$PI_t = -2061.59 + .8650 GDP_t$$

Gaps

$$MIFTG_t = M_t$$

$$MIFSG_t = PC_t + GC_t + FI_t + INVCH_t + X_t - GDP_t$$

$$M_t = \max \{MIFTG_t, MIFSG_t\}$$

$$RGAP_t = M_t - XTTADJ_t$$

$$C_t = GDY_t + RGAP_t - FI_t - INVCH_t$$

exogenous: TTADJ

Government Accounts

$$\begin{aligned}GC_t &= 945.84 + .2200 GR_t \\GR_t &= -40.53 + 1.2740 DT_t + .9121 IT_t \\DT_t &= DHT_t + DCT_t \\DHT_t &= \alpha_6 PI_t \\DCT_t &= \alpha_7 GDP_t \\IT_t &= \alpha_8 GDP_t \\GS_t &= GR_t - GC_t - GTR_t \\GTR_t &= \alpha_9 GC_t \\PUBINV_t &= \alpha_{10} (FI_t + INVCH_t) \\GDEFIC_t &= PUBINV_t - GS_t \\exogenous: &\alpha_6, \alpha_7, \alpha_8, \alpha_9, \alpha_{10}\end{aligned}$$

Balance of Payments

$$\begin{aligned}IMPORT_t &= MPRICE_t \cdot M_t \\EXPORT_t &= COFEPR_t \cdot XCOF_t + MPRICE_t \cdot XMIN_t + OILPR_t \cdot XOIL_t + MPRICE_t \cdot XNFS_t \\RESBAL_t &= EXPORT_t - IMPORT_t \\CHRES_t &= \alpha_{11} EXPORT_t \\SHTERM_t &= RESBAL_t + FSY + NETTRN_t + DBTPUB_t - AMTPUB_t + CAPNEI_t - CHRES_t \\exogenous: &MPRICE, XPRICE, \alpha_{11}, FSY, NETTRN, CAPNEI\end{aligned}$$

Symbols

(All variables in 1958 Colombian pesos except if otherwise specified.)

Sectoral Output

COFE	= coffee production in thousands of 60 kg bags
E_{cof}	= growth rate of COFE
YCOF	= value added in the coffee subsector
YNCOF	= value added in non-coffee subsector of agriculture
E_{ncof}	= growth rate of YNCOF
YAGR	= value added in agriculture
YIND	= value added in industry
E_{ind}	= growth rate of YIND
YTRAN	= value added in transport
GDP	= gross domestic product
GNP	= gross national product
FSY	= net factor service income
GDY	= gross domestic income
TTADJ	= terms of trade adjustment

Investment

ICORFI	= incremental capital-output ratio for total fixed investment
ICORIM	= incremental capital output ratio for the machinery component of fixed investment
$GR(GDP - YAGR)$	= growth rate of GDP minus YAGR
$GR(YIND + YTRAN)$	= growth rate of YIND plus YTRAN
FI	= total fixed investment
IM	= machinery component of fixed investment

Changes in Inventories

INVCH = inventory changes

Imports

MCAP = imports of capital goods

MINTI = imports of intermediate goods for industry

MCO = imports of consumers' goods

RES = level of foreign exchange reserves with the central bank in current dollars

MPRICE = import price index

M_t = total imports

Exports

XCOFE = exports of coffee in thousands of 60 kg bags

XCOF = earnings from coffee exports

XMIN = minor exports

XOIL = oil exports

XNFS = non-factor services exports

X = total exports

XTTADJ = total exports adjusted by the terms of trade

Consumption and Savings

PC = private consumption

DI = disposable income

PI = personal income

Gaps

MIFTG	= imports if the trade gap is binding
MIFSG	= imports if the savings gap is binding
RGAP	= resource gap
C_t	= total consumption

Government Accounts

GC	= government current consumption
GR	= government current revenues
DT	= total direct taxes
DHT	= direct household taxes
DCT	= direct corporate taxes
IT	= indirect taxes
GTR	= government current transfers to households plus other subsidies
GS	= government savings
PUBINV	= public investment
GDEFIC	= government deficit

Balance of Payments

IMPORT	= imports in current dollars
EXPORT	= exports in current dollars
COFEPR	= coffee price index
OILPR	= oil price index
RESBAL	= resource balance in current dollars
CHRES	= total change in foreign exchange reserves
SHTERM	= short-term requirements of foreign exchange
DBTPUB	= disbursements of public debt
AMTPUB	= amortization of public debt
NETIRN	= net foreign transfers

OF-RESEARCH
(RASH 297)
OFFICE MEMORANDUM

TO: Mr. J. English, ECDBB
DATE: August 8, 1974
FROM: D. C. Rao, VPD
SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
297	10.2	2.5	12.7

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OFFICE MEMORANDUM

TO: Mr. O. Grimes, ECDRA

DATE: August 8, 1974

FROM: D. C. Rao, VPD *DR*SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
298	19.9	3.1	23.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OFFICE MEMORANDUM

TO: Mr. K. DiTullio, ECON2

FROM: D. C. Rao, VPD

SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
277	28.5	7.6	36.1

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OFFICE MEMORANDUM

TO: Mr. F. Thoumi, ECDND

FROM: D. C. Rao, VPD

SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
295	32.2	2.8	35.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OF-RESEARCH
(RPO #296)

OFFICE MEMORANDUM

TO: Mr. J. Meerman, ECDF

DATE: August 8, 1974

FROM: D. C. Rao, VPD

SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
296	20.5	16.4	36.9

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OFFICE MEMORANDUM

TO: Mr. P. Clark, DRCDF

FROM: D. C. Rao, VPD *DK*

SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
269	51.6	8.4	60.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Duloy

01-RESEARCH
(RPO # 246)
OFFICE MEMORANDUM

TO: Mr. M. Hultin, Education Dept. DATE: August 8, 1974
FROM: D. C. Rao, VPD *DK*
SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
246	7.6	-	7.6

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.
cc: Mr. Ballantine

OFFICE MEMORANDUM

TO: Mr. M. Ahluwalia, DPCID

FROM: D. C. Rao, VPD *DK*

SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
294	14.2	1.6	15.8

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Duloy

00-RESEARCH
(RPO# 285)

OFFICE MEMORANDUM

TO: Mr. C. Ullman, DRCID

FROM: D. C. Rao, VPD *DK*

SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
285	30.0	-	30.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Duloy

OFFICE MEMORANDUM

TO: Mr. M. Ahluwalia, DDCID
FROM: D. C. Rao, VPD
SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
284	70.0	-	70.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Duloy

OFFICE MEMORANDUM

TO: Mr. M. Ahluwalia, DACID
DATE: August 8, 1974
FROM: D. C. Rao, VPD *DK*
SUBJECT: June Quarter Status Reports on Research Projects

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
301	1.6	5.4	7.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Gulhati

OFFICE MEMORANDUM

TO: Mr. C. Ullman, DRCID

FROM: D. C. Rao, VPD *DK*

SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
274	30.0	5.0	35.0

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Duloy

OFFICE MEMORANDUM

TO: Mr. P. Clark, DRCDF
FROM: D. C. Rao, VPD *DR*
SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

<u>RPO No.</u>	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
273	111.0	19.9	130.9

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Duloy

OFFICE MEMORANDUM

TO: Mr. B. Balassa, DRC
FROM: D. C. Rao, VPD
SUBJECT: June Quarter Status Reports on Research Projects

DATE: August 8, 1974

I have delayed asking for a Quarterly Status Report for June Quarter until the detailed expenditure statements were received from the Controller's office. These statements have now been sent to you.

In filling Section III of the Status Report (Financial and Staff Data), please adhere to the following procedure:

- (a) Enter accruals in the column headed "balance of signed contracts not yet disbursed". You can identify the specific items which have been accrued from the Controller's statements. The items have been circled and total accruals for travel and consultants have been noted by hand at the bottom of each section. There are no accruals for data processing. When disbursements are made on these specific commitments, they will be charged to the FY74 budget.
- (b) Show actual disbursements, not including accruals, in the first column of the table. You will note that the Controller's statements include accruals in disbursements.
- (c) The columns for "firm arrangements" and "tentative arrangements" and "total" should be left completely blank.
- (d) Having filled the table, check that the sum of the "Actual disbursements" and "Balance of signed contracts not yet disbursed" columns is equal to the item "Total Disbursements", line 38 of the Controller's statement, which has been sent to you.

For your convenience, I list the relevant aggregate below (in \$'000):

RPO No.	<u>"Actual Disbursements"</u>	<u>"Accruals"</u>	<u>"Total Disbursements"</u>
287	14.3	12.6	26.9

If you have any problems, please consult with your administrative officer or with me.

The completed Status Reports should be returned to me no later than August 30, 1974.

cc: Mr. Duloy

Mr. D.C. Rao

August 7, 1974

Colin Bruce

FAO/IBRD Cooperative Research Project on Small Farms

Thank you for sending me copies of the Leiserson and Krishna comments on the above. I don't want to get involved in a detailed refutation of the many points made in these two memoranda, but for the record, in all fairness to us I think it should be said that Messrs. Leiserson and Krishna were commenting on a paper prepared for Mr. McNamara's consumption, not that of the Research Committee; we were requested to answer certain specific questions put to us by Mr. McNamara and we were not making a detailed research submission to the Research Committee.

cc: Mrs. Hughes
Messrs. Leiserson, Krishna
CBruce:ssp

OFFICE MEMORANDUM

OP-RESEARCH
(SP-010000 PRO.)

TO: Mr. Ernest Stern

DATE: August 6, 1974

FROM: B. B. King *BBK*

SUBJECT: International Economic Order Competition
(Ford Foundation)

1. I understand that Mr. McNamara agrees in principle to consider a contribution of up to \$50,000 to the Takayama project.

2. I have now asked Ford (Ruof) to legitimize our interest in the project by formally asking Takayama to release the papers to us. Once this is done, he will inform D. C. Rao. Probably the first step thereafter should be an informal meeting between Duloy and Takayama during August.

3. The results of the competition will be announced on September 2/3, but there will be a period of a month or so of discussions thereafter on the details of some of the projects. If, as expected, the Takayama project is a finalist, we would also have to reach a final view during that period. Waelbroeck will be here on September 1 and obviously should be involved.

cc: Messrs. Balassa
Duloy
A. Ljungh
D.C. Rao
Tims/Waelbroeck

D.P. Research

Clell G. Harral

August 6, 1974

Aragaw Trunch

Evaluation of Research Project: The Effect of Road Width on Vehicle Speed - Kenya.

1. Objectives of the research work are to (1) establish the effect of carriageway and shoulder widths upon the speed of vehicles (2) investigate the dependence between flow and speed on bitumen rural roads so that any relevant result found could be incorporated to the highway design standard study in Kenya.

2. In order to single out the effects of flow, widths of carriageway and shoulder on speed; the influence of geometrics was eliminated by selecting level and straight road sections. There were nine sections selected, each of 1 Km length. Their carriageway and shoulder widths varied between 18-23 and 5-10 ft. respectively.

3. Six vehicle types were considered. The flows observed on the nine sections varied between 32 and 215 vehicles per hour, the average being 80 vehicles per hour (both directions). Data was collected on hourly bases.

Results

4. The dependence of running speed on the carriageway width exists when mixed flow, cars and light vehicles are considered.

5. The study has revealed a one to one relationship between the mean speed of the entire traffic flow, the carriageway width and the proportion of heavy vehicles.

6. The increase in speed for most vehicles as shoulder width increases showed the right direction but not magnitude.

7. The one-minute vehicle flow aggregation, instead of that of one-hour, on four sections with comparatively high flows was found to affect car speeds only.

Remarks

8. In attempting to single out the effect of flow and widths of carriageways and shoulder on speed the research ought to have also eliminated the influence of road surface conditions by ensuring the same level of surface characteristics in the nine study sections. This factor is obviously an important one in influencing speeds on level and tangent sections with different surface quality and because of it all the relationships hold only for the conditions at the nine locations studied and are far from being applicable elsewhere.

9. However, the effort expended in this research has given a pay-off in revealing important factors to be kept uniform over study sections in order to single out the only effect considered here. Some of these factors are road surface conditions, sight distances, horizontal and vertical curves.

Afrunch:mcp

Act

WORLD BANK GROUP

ROUTING SLIP

DATE

AUG 24 1974

NAME

ROOM NO.

(1) MR. B. KING

F-1233

(2) Record Station Classifier

G-1055

Mrs. N. Hariss

APPROPRIATE DISPOSITION

NOTE AND RETURN

APPROVAL

NOTE AND SEND ON

COMMENT

PER OUR CONVERSATION

FOR ACTION

PER YOUR REQUEST

INFORMATION

PREPARE REPLY

INITIAL

RECOMMENDATION

NO. AND FILE

SIGNATURE

REMARKS

Will you please:

initial the attached to indicate that it has been released for filing

indicate the organization, study, meeting, project to which it refers

forward attachment

FY75 RESEARCH PROPOSALS.

FROM

ROOM NO.

EXTENSION

Bank/Administration & Policy

G 1065

3525

OP-RESEARCH

August 6, 1974

Prof. John S. Morgan
The School of Social Work
University of Pennsylvania
3701 Locust Street
Philadelphia 19104

Dear Prof. Morgan:

This is in reply to your letter to Dr. Chenery of June 28. We do not have any very good ideas on the solution of your problem. I have telephoned twice to give you such very tentative views as have occurred to me, but you have been away both times. I shall now be away until late August and hope to try you again on return.

Yours sincerely,

JL
for Benjamin B. King
Research Adviser
Development Policy

BBKing:gm

Mr. Ernest Stern

August 6, 1974

B. B. King *BBK*

International Economic Order Competition
(Ford Foundation)

1. I understand that Mr. McNamara agrees in principle to consider a contribution of up to \$50,000 to the Takayama project.
2. I have now asked Ford (Ruof) to legitimize our interest in the project by formally asking Takayama to release the papers to us. Once this is done, he will inform D. C. Rao. Probably the first step thereafter should be an informal meeting between Duloy and Takayama during August.
3. The results of the competition will be announced on September 2/3, but there will be a period of a month or so of discussions thereafter on the details of some of the projects. If, as expected, the Takayama project is a finalist, we would also have to reach a final view during that period. Waelbroeck will be here on September 1 and obviously should be involved.

cc: Messrs. Balassa
 Duloy
 A. Ljungh
 D.C. Rao
 Tims/Waelbroeck

BBKing:gm

OP-RESEARCH
(PROPOSAL BY PLAN DEPT)

August 5, 1974

Dr. D. I. Pakshong
Head, Maternal and Child Health Services
National Family Planning Institute
26 Dunearn Road
Singapore 11, Singapore

Dear Dr. Pakshong:

I am writing to let you know about an item in our "Policy and Research Work Program" for which I would like to obtain your interest and participation. Dr. T. I. Kim, of our staff, has primary responsibility for this work in the Department, but we propose to invite your participation as a consultant in the preparatory phases of this study. The following is an outline of the study:

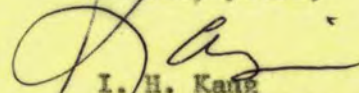
Statistical Studies of the Relationship of Family Planning to Maternal and Child Health

It seems clear that the political and administrative acceptance of birth control in Latin America and Africa will depend more on health than on demographic considerations. There is strong empirical evidence to believe that planning the frequency and number of births can make a great difference to maternal and child health. Existing evidence needs to be built up for LDCs as a means of strengthening their interest in family planning. The necessary studies could be fairly expensive and time-consuming and the Bank should not attempt to carry the whole responsibility for organizing or financing them. Over the next 12 months, the PNPD proposes to explore what such studies would require, how they might be done, what they might cost, and whether or not other agencies might be interested in joining the Bank in their executing and financing.

We propose to begin this study in the fall, and would like to know if you might be available for about six to eight weeks beginning early October. You will be based in Washington and, in the first phase of the study, a review of the existing situation and other formulation of this study plan is envisaged. At this stage, field travel is not planned but may be required in the later stages of the study.

The Bank will meet the cost of your travel and subsistence and will pay you a Consultant honorarium which will be discussed with you by our Personnel Department. We will be grateful if you can advise us of your availability.

Sincerely yours,



I. H. Kang

Population and Nutrition Projects Department

cc: Dr. Kanagaratnam
Mr. Baldwin
Dr. Kim

KKanagaratnam:is

R.S - 5-5
CC R.S - H-1
CC R.S F-1
✓ CC. OP-RESEARCH

Mr. J. A. Schaech, CAD

August 5, 1974

M. Hazzah, VPD *MH*

External Research Computing Expenditure FY75

The following is a list of anticipated computing requirements of external research projects during FY75:

<u>RPO NO.</u>	<u>Name</u>	<u>Amount ('000)</u>
226	Substitution of Labor and Equipment in Civil Works	3.8
227	Highway Design Study, Phase II	5.3
227	Yemen Arab Republic Feeder Road Study	2.5
314	Malagasy Feeder Road	1.8

cc: Messrs. P. Smith
D. C. Rao
M. Rathnam

MHazzah:gm

OP-RESERVA

Files

August 2, 1974

Frank Lowenstein *FL*

Conversation with Professor Martin Abel,
University of Minnesota, August 2, 1974,
concerning Grain Production Research Project for Asia

1. In a long-distance telephone call with Professor Abel, we discussed development of the Grain Production Research Project and possible use of the staff of the University of Minnesota on the Project.
2. Dr. Abel wanted to know our objectives and our methods and I told him that our objective was to develop information concerning production of grains, especially rice and wheat, in Asia over the next 10 years. One estimate would assume that countries continued on their present path; another would assume adoption of systems which would result in optimum output, and the third would consist of the most likely production, assuming certain alterations between the two extremes.
3. We discussed the phasing of the Project. The first phase, the one to be started now, would be a review of existing literature and information in IBRD, other international institutions and at national research organizations. A review of the state of the art and perhaps the planning of in-depth studies for two countries for the next phase. Dr. Abel was quite interested in our approach and wanted to know who would be in charge of the Project and I told him that I would be in charge working with Mr. Bruce, Mr. Dorris Brown and Mr. Egbert.
4. Dr. Abel suggested that he might be able to find one man from his staff for our use who would be backed up by Professors Cochrane Houk and Abel. He also suggested that we might be able to utilize Dr. Cavin's services on a part-time basis.
5. I informed Dr. Abel that this conversation was not a commitment and that we were having only an exploratory conversation. I also indicated that I intended to contact other people in other institutions.
6. If the University of Minnesota, Dr. Abel and his staff, are interested in the Project and if we are interested in utilizing them, I suggested that I might come out to the University and talk to him and his colleagues. At the end of the conversation, he indicated that in the long-term, he would be interested in freeing some of his own time to be utilized in developing the study.

cc: Messrs. Vergin, Picciotto, Bruce, Koffsky, Dorris Brown, and Egbert

Flowenstein:is

OP-RESEARCH
CRMO# 279

AUG 7

REC'D

THE INTERNATIONAL DEVELOPMENT CENTER OF JAPAN

TAKAGI BLDG., 7-2, NISHI-SHINBASHI 1-CHOME,
MINATOKU, TOKYO, JAPAN

CABLE
INTLDEVCENTER TOKYO

TELEPHONE
TOKYO 502-3911

August 2, 1974

Mr. Bernard Bell
Regional Vice President
East Asia and Pacific Department
Asia Regional Office
International Bank for Reconstruction
and Development
1818 H Street, N. W.
Washington, D. C. 20433
U. S. A.

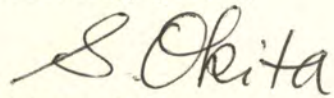
Dear Mr. Bell:

Thank you very much for your letter of July 22, 1974. We greatly appreciate your decision to extend the deadline for the submission of our draft report to August 31. By the time you visit Tokyo, we will have completed all the work to be done for the project.

Quite unfortunately, however, I will be out of Japan from August 8 to September 1 and will not be able to see you in Tokyo this time. In my place, Mr. Jiro Kano, Managing Director of IDCJ, and Dr. Akira Onishi, Senior Economist of IDCJ and study coordinator for the Bank project, will meet you to discuss the remaining schedule of the project and other issues of our mutual concern. They have already asked the Bank's Tokyo Office to arrange for them an appointment with you on August 20, Tuesday.

I hope you enjoy your stay in Tokyo and am looking forward to seeing you in September at your Annual Meeting.

Sincerely yours,



Saburo Okita
Special Adviser to the Chairman

SO:ho

cc Mr. Aritoshi Soejima
Mr. S. S. Kirmani
Mr. Jiro Kano

COMMUNICATIONS
1374002-1 6M 5:51

RECEIVED



THE INTERNATIONAL DEVELOPMENT CENTER OF JAPAN

TAKAGI BLDG. 7-2 NISHI-SHINBASHI 1-CHOME
MINATO-KU, TOKYO, JAPAN

TELEPHONE
TOKYO 202-2011

CABLE
INTLDEVCENTR TOKYO

August 2, 1974

Mr. Bernard Bell
Regional Vice President
East Asia and Pacific Department
Asia Regional Office
International Bank for Reconstruction
and Development
1818 H Street, N. W.
Washington, D. C. 20433
U. S. A.

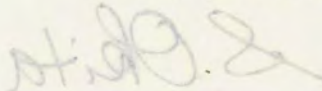
Dear Mr. Bell:

Thank you very much for your letter of July 22, 1974. We greatly appreciate your decision to extend the deadline for the submission of our draft report to August 31. By the time you visit Tokyo, we will have completed all the work to be done for the project.

Quite unfortunately, however, I will be out of Japan from August 8 to September 1 and will not be able to see you in Tokyo this time. In my place, Mr. Jiro Kano, Managing Director of IDCL, and Dr. Akira Onishi, Senior Economist of IDCL and study coordinator for the Bank project, will meet you to discuss the remaining schedule of the project and other issues of our mutual concern. They have already asked the Bank's Tokyo Office to arrange for them an appointment with you on August 20, Tuesday.

I hope you enjoy your stay in Tokyo and am looking forward to seeing you in September at your Annual Meeting.

Sincerely yours,



Saburo Okita
Special Adviser to the Chairman

20:00

cc Mr. Akitsoshi Soejima
Mr. S. S. Kirmant
Mr. Jiro Kano

SECTION
COMMUNICATIONS
1974 AUG -7 PM 2:27

RECEIVED



AUG 7

Handwritten notes at top of page

*OB. Research
(R.P.O.#292)*

Mr. Robert S. McNamara, President

August 2, 1974

Ernest Stern, Director, Development Policy

"The Social Sciences and Development"

Behind file

Attached, for your information and bookcase, is the printed version of the papers prepared for our Bellagio Conference on Research, last February. Over a thousand copies are being distributed by the OECD Development Centre and the other sponsoring agencies to research institutions and individuals around the world.

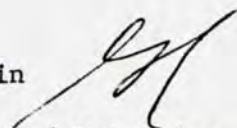
Attachment
EStern/lm

OFFICE MEMORANDUM

OP-EDUCATION
OP-POPULATION & NUTRITION
OP-RESEARCH

TO: Files

DATE: August 2, 1974

FROM: Mats Hultin SUBJECT: Education and Nutrition

1. A meeting was held on August 1, 1974 in my office with Messrs. Alan Berg and S. Venkitarananan of the Population and Nutrition Department.
2. Mr. Berg would provide some comments on the paragraphs in the Education Sector Policy Paper which deal with nutrition early next week.
3. We discussed the possible inclusion of nutrition components in education projects and I offered to try to review the current lending program with a view to identify projects with basic education in which the inclusion of school meal programs could be discussed.
4. Mr. Berg and Mr. Venkitarananan would indicate in an office memorandum some major points on nutrition in syllabi in primary, secondary and tertiary education.
5. A research proposal with the objective to study the relation between nutrition and education performance was discussed. Such a proposal would be drafted in the Population and Nutrition Projects Department and submitted to the Education Department for comments.

MGH/rcm

cc: Mr. Ballantine
Mr. Berg
Mr. Venkitarananan

August 2, 1974

Prof. Philip Hauser
Population Research Center
1413 E. 60th Street
Chicago, Illinois, 60637

Dear Professor Hauser:

I enjoyed very much the opportunity of meeting you and profited by your remarks in the seminar you addressed in the Bank.

Dipak Mazumdar read (but could not fully digest) the papers you sent with your letter of July 12 before leaving Washington on a long trip. Meanwhile, we should convey our initial reactions and outline the prospects as we see them. First, the Bank's Research Committee has very nearly exhausted its budget for FY 1975 ending June 1975. In principle, it should be possible to commit funds in the spring of 1975 but these cannot be disbursed till July 1.

Secondly, the Bank has very considerable interest in improving concepts and data in the field of labor supply, employment, et.al. Your initiative in building up interest among governments and statisticians in South East Asia is an important one. We are sorry that the experimentation that started under the ODA-CAMS auspices has got delayed and hope that the problem will soon be resolved.

Dipak Mazumdar and Mark Leiserson (who has just joined as head of the Employment and Rural Development Division in the Development Economics Department) will be glad to work with you in the period ahead. If you consider it useful, they can comment in detail on the conceptual framework underlying the experiments you propose to conduct. If there is agreement on

Prof. Philip Hauser

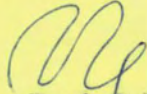
- 2 -

August 2, 1974

the approach to be followed, the Bank will be prepared to consider funding through its research budget.

With my best regards. Kaval sends her greetings to you and Mrs. Hauser.

Yours sincerely,



Ravi Gulhati
Director

Development Economics Department

cc: Messrs. King, VPD
Leiserson, ECDAR
Mazumdar, ECDAR

RG/mo

OFFICE MEMORANDUM

OP RESEARCH
(FORD FOUNDATION)

TO: Mr. Robert S. McNamara, President

DATE: August 2, 1974

FROM: Hollis B. Chenery, ¹⁴³²VP, Development PolicySUBJECT: International Economic Order Competition
(Ford Foundation)

1. We have checked into the proposals which Ford has received in the general field of international trade to see if there was any which might in fact be in the area you are interested in. There appears to be one which has considerable merit. Moreover, it presents Ford with a problem, since the cost would amount to 20% of their budget. From their point of view, this is the only thing against it.

2. We have obtained a copy of this proposal on a confidential basis. It has been given a quick screening by two of our most experienced researchers (Waelbroeck and Balassa). Though each has certain reservations, they both regard the project favorably, certainly enough to give it a more thorough review. Before we do this, however, we would like to "legitimize" our possession of the document, i.e. Ford would get the authors' permission to release the document to us.

3. Before approaching Ford again, we would also like to be certain that this is the sort of project in principle that you would be prepared to support from your contingency reserve.

The Project

4. The project is by a University of Illinois team, which includes Professors Takayama and Judge, who have collaborated before and have a high reputation. Its title is "Projection and Evaluation of Trends and Policies in Agricultural Commodity Supply, Demand, International Trade, and Food Reserves".

5. The research consists in building a model of international trade in agricultural commodities in order to make a projection over 10 to 20 years of supply, demand, price, trade and storage of the principal basic food products (grains, oilseeds, livestock products). The model is policy-oriented. It would not be based on assumptions of free trade, but on more realistic restrictive assumptions and would be designed to answer such questions as: what is the most desirable buffer stock policy?

6. The project would appear to be complementary to some of the work now going on in the Bank (e.g. in the Development Research Center and in Economic Analysis and Projections Department). It is possible that, if the Bank supports it, there could be a collaborative effort.

HBChenery:BBKing:gss

OP GOP Agricultural & Rural Development Panel

✓ cc OP Research

cc Each R.P.O#

Mr. A. Neylan, Agriculture & Rural Development Department
D. C. Rao, VPD

August 1, 1974

Advisory Panel of Agricultural and Rural Development - Meeting on Research

The attached papers provide the background for the Advisory Panel's meeting on research on agriculture and rural development, on August 6. The material is presented in two sections:

- (A) External Research Projects: This constitutes projects which are financed by the external research budget, rather than by the departments, usually because they are relatively large and involve the use of consultants;
- (B) Other Research and Studies: This includes policy/ issues papers and constitutes a variety of studies in this area as reported to us by the Agriculture and Rural Development Department in CPS and the Employment and Rural Development Department in DPS.

I am confident that this is an incomplete listing of all the research now going on in the Bank relating to agriculture and rural development. First, it omits research studies (other than external research projects) being undertaken in departments other than the two which are listed above. Secondly, it omits research studies which are being undertaken in the context of specific loans. For instance, the Muda River Project included an extensive socio-economic survey which would not have figured in this listing, but the analysis of the survey is an important component of the research project "The Analytics of Change in Rural Communities" (RPO 317). Similarly, the external research budget has paid for the baseline socio-economic survey to study the development impact of feeder roads in Ethiopia (RPO 271), but it is expected that the costs of the subsequent surveys will be borne by the proposed Minimum Package loan to Ethiopia.

You will understand therefore, why it is difficult to provide even a reasonably complete survey of the research being done in the Bank. However, we have made a beginning and we are in the process of improving this list.

At the meeting on August 6, Mr. King and I would be particularly interested in obtaining the views of the members of the Panel regarding the priority of topics listed here, relative to the topics that do not appear in this list. It is obviously necessary to develop a reasonably clear idea of the overall scope and balance of research in this difficult

Mr. A. Neylan

--2--

August 1, 1974

area before we can intelligently design specific research projects. The members of the Panel have the advantage of a different perspective on the research being done outside the Bank and we would hope to benefit from this at the meeting.

Attachment

cc: Messrs. B. King
Duloy
Darnell
Christoffersen
Leiserson
Bruce

DCRao:gm

*D.P. Research
(R.P.O 314)*

OUTGOING WIRE

TO: PROF H GRUBINGER
INDEL
ETHZ
SCHEUCHZERSTR 68
8006 ZURICH

DATE: AUGUST 1 1974

CLASS OF
SERVICE: LT *RCA*

COUNTRY: SWITZERLAND

EXT. 5746

TEXT:
Cable No.:

RPO 314

REMYLETS JUNE SEVEN AND APRIL SEVENTEEN MALAGASY STUDY NOW APPROVED STOP
WHERE AND WHEN CAN I REACH YOU BY TELEPHONE TO DISCUSS POSSIBILITIES AND
TIMING FOR INDEL TEAM SOONEST REGARDS

MITCHELL

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME Clell G. Harral

DEPT. Transportation & Urban Projects

SIGNATURE *[Signature]*
(SIGNATURE OF INDIVIDUAL AUTHORIZED TO APPROVE)

REFERENCE:

Mitchell:ww

CLEARANCES AND COPY DISTRIBUTION:

For Use By Communications Section

ORIGINAL (File Copy)

(IMPORTANT: See Secretaries Guide for preparing form)

Checked for Dispatch: *SC*

(R.P.O. 314)

OUTGOING WIRE

TO: PROF. H. GRUBINGER
YDNE
RIVE
SCHNITZERSTR 68
8006 ZURICH

COUNTRY: SWITZERLAND

TEXT:
Cable No.:

DATE

AUGUST 1 1974

CLASS OF
SERVICE

IR / RPA

EXT. 5746

R 90 314

REMITTANCE JUNE SEVEN AND APRIL SEVENTEEN MALAGASY STUDY NOW APPROVED STOP
PLEASE ADVISE WHEN CAN I REACH YOU BY TELEPHONE TO DISCUSS POSSIBILITIES AND
TIMING FOR INDIAN TEAM SOONEST REGARDS

MITCHELL

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME

CELL G. HAYAL

DEPT.

Transportation & Urban Projects

SIGNATURE

[Handwritten Signature]

REFERENCE

SECTION

Aug 1 4 43 PM 1974

RECEIVED

ORIGINAL (File Copy)

IMPORTANT: See Secretaries Guide for routing forms

Checked for Dispatch

MS

Sept. 30, 1974

From: Jakarta

INCOMING TELEK

O.R. Research
(R.P. 301)

SEP 30 7 47 AM
COMMUNICATIONS SECTION

1366 FOR MONTEK AHLUWALIA

I COULD NOT MEET CHANDER HE HAD MEETINGS ALL DAY. LIEW KHOY LATT AND NAIR HANDLING INDUSTRIAL STATISTICS ON LEAVE. DISCUSSED YOUR QUESTIONS WITH UN NATIONAL ACCOUNTS ADVISOR OINES AND HE WILL WRITE YOU. SEND UNANSWERED QUESTIONS TO CHANDER WITH A FORMAL LETTER. 1973 HOUSEHOLD EXPENDITURE SURVEY DATA BEING EDITED. TABULATION PLAN DUE OCTOBER END. PRELIMINARY TABLES EXPECTED AROUND JUNE 1975. EX FACTORY AND EX FARM OR PRODUCERS PRICES INDEX BEGAN IN 1972 AS A NEW PROJECT. DATA FOR 1972 AND 1973 BEING PUT ON COMPUTER. WILL PROVIDE PRICES FOR TWO DIGIT INDUSTRIAL CLASSIFICATION EXCLUDING CONSTRUCTION AND SERVICES. 1970 ACCOUNTS EXPECTED BY NEXT WEEK. OINES DOUBTFUL WHETHER MASSIVE TABLE CAN OR WILL BE RELEASED FOR YOUR USE BECAUSE CONFIDENTIALITY ISSUE. 1969 TABLE IN THOUSANDS OF MALAYSIAN DOLLARS AT CURRENT PRICES. ORIGINALLY USED FIVE DIGIT COMMODITY CLASSIFICATION BUT THREE DIGIT CLASSIFICATION

Distribution:

Mr. Ahluwalia

MORE RELIABLE. FOR SUPPLIES FROM BOTH IMPORTS AND DOMESTIC OUTPUT ALL USERS ASSIGNED IDENTICAL SHARE OF BOTH. CODE 392 SHOULD NOT BE THERE BUT IS PROBABLY PART OF 391. ORIGINAL 391 EQUALLED 385 PLUS 39. NOW 391 EQUALS 385 AND 392 EQUALS 39. CODE 971 REFERS TO POSTAL PACKAGES IT SHOULD NOT BE THERE AND WILL BE INVESTIGATED. POLICE SELL SOME SERVICES LIKE THEIR BAND. 513 AND 514 SELL SOME USED ITEMS. FOR TRADE AND TRANSPORT ROWS ARE IDENTICAL WITH COLUMNS SHOWING TRADE AND TRANSPORT MARGINS. IN SOME CASES TRADE MARGIN INFORMATION REFERS TO ONLY COMMODITY GROUPS. FURTHER SUBDIVISION OF TRANSPORT OFTEN NOT POSSIBLE. IMPORT PRICE INDEX NOT TRUSTWORTHY UPTO 1970 DATA ON QUANTITIES NOT COLLECTED. CONSUMER PRICE INDEX GOES BACK SOME YEARS. SOME PRICE INDEX AVAILABLE FOR IMPORTS EXPORTS BUT NOT FOR CAPITAL FORMATION OR CAPITAL GOODS AND STOCKS. COMPOSITION OF CONSUMER EXPENDITURE IN 1968 PUBLISHED. OINES COULD NOT FIND IT HAS PROMISED TO SEND BUT CABLE AND REQUEST IT FROM CHANDER. CONSUMER EXPENDITURE DETAILS FOR 1969 AND 1970 EXPECTED IN SOME FORTHCOMING PUBLICATION ACCORDING MY INCOMPLETE NOTE. REGARDS

PRAVIN