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1972/74
OP - GOP - Appraisal & Preparation of Projects I

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RECORDS MANAGEMENT SECTION

DOCUMENT OF

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

NOT FOR PUBLIC USE



FROM: The Secretary

SecM72-661

December 22, 1972

## The Bank's Project Experience

1. In the course of the discussion of the paper "Project Supervision" (R72-121) at the July 25 Board meeting, after several speakers had urged that the Bank should do everything possible to make its experience of project appraisal and supervision available to officials in developing countries, the Chairman asked the Secretary to review what was being done in this respect.

2. As emphasized at the July 25 meeting, the Bank has over the years developed considerable expertise in the techniques of project appraisal and supervision and accumulated a great store of experience relating to the preparation, execution and operation of projects and to actual problems which arise in the course of this work and their solution. This experience exists in a variety of forms, many of which, as the staff pointed out during the discussion, are not immediately suited to being made available to the public. Nevertheless, the Bank has made this experience available to persons concerned with development in its member countries and to the public generally in a variety of ways.

3. The most important of these is through the day-to-day conduct of the Bank's project activities. In all phases of project work, the Bank's accumulated experience is transmitted to persons in the developing countries concerned with the identification, preparation, evaluation and execution of projects. For example, during the mid-1960s the Bank cooperated with the UNDP, other agencies and Brazil in carrying out a comprehensive study of the transport sector of that country, which in turn led to a program for the sector which in large measure constituted a transfer of the Bank's experience in modernizing and rationalizing transport sectors in developing countries. The Bank has participated in carrying out the program by making a number of highway loans. As a result of this work, local consulting firms capable of carrying out studies and design work were created, the federal and state highway departments were reorganized, highway design standards were adopted for the whole country, a transport planning unit was created and trained, a highway training center is being created; all of these reflect in different ways a transfer of the Bank's experience in improving the execution of project work in the transport sector and in improving the effectiveness of the sector itself. Similar transfers of experience, some more effective than others, take place daily as part of the Bank's regular work.

Distribution

Executive Directors and Alternates
President
Senior Vice President, Operations
Vice Presidents, Bank and Officers of IFC
Directors and Department Heads, Bank and IFC

4. The Bank also seeks to make its experience relating to projects available in a more formal and systematic way through the projects courses conducted by the EDI since 1963. In these courses, the Bank has sought to make available the lessons it has learned in the identification, preparation, evaluation and supervision of projects. There have been 47 of such courses with a total of 1,142 participants at the Institute's headquarters, and, since 1967, 11 projects courses with a total of 284 participants overseas. The participants come from upper-level government posts, and return to key positions in ministries and government agencies or institutions concerned with development.

5. Finally, the Bank has made its experience relating to project work more generally available through its publications program. Included in these activities are:

a) An EDI book, "Economic Development Projects and Their Appraisal", by John A. King, Jr. (1967), which reviews the history of some 30 Bank-financed power, transport and industrial projects. While, as the preface to this book points out, these projects are drawn from the Bank's earlier experience, and do not illustrate the Bank's work in the less traditional sectors in which it has become active in recent years, or its latest techniques of project appraisal, it remains a valuable guide to the practical problems the Bank encounters in its project work.

b) A series of EDI books on project analysis; the first, "Economic Analysis of Agricultural Projects" (1972) by J. Price Gittinger, has already been issued, and was distributed to the Executive Directors. French and Spanish translations of this book will be published in the first half of 1973. A book, "Compounding and Discounting Tables for Project Evaluation", edited by J. Price Gittinger, will be published in February 1973. Other EDI publications are planned for FY74, the first of which will be a manual on farm accounting.

c) A series of Seminar Papers, produced by the EDI, some dealing with project analysis, of which the following will appear in the first quarter of 1973: "Industry Case Studies and Work Exercises", edited by F. H. Lamson-Scribner; "Agriculture Case Studies and Work Exercises", edited by J. Price Gittinger; and a bibliography of works on agricultural project analysis edited by Orlando Espadas. A collection of "Education Case Studies", edited by I. A. Sirken, will be completed next August. Executive Directors will be notified when these papers are available.

d) A publication, on which work is proceeding, which describes the preparation, appraisal and negotiating phases leading up to a Bank loan, and the subsequent supervision of the project, which it is hoped will be published before the end of FY73.

e) The series of Sector Papers prepared over the past two years and recently collected in a single volume entitled "World Bank Operations", which gives a comprehensive account of the Bank's approach to project selection, but does not go into the details of the evaluation of individual projects.

f) "Occasional Papers" consisting of specialized studies by staff and consultants which, while prepared primarily for internal use, appear likely to be of sufficient interest to readers outside the Bank to warrant the considerable time and expense needed to put them in a form suitable for publication. Many of these papers are based on the Bank's project experience and describe appraisal techniques used by Bank staff.

g) Other Bank publications reflecting project experience or appraisal methods in particular fields are the three volume "Water and Power Resources of West Pakistan", prepared by a Bank Study Group headed by Dr. Lieftinck (1968), and "Experiences with Agricultural Development in Tropical Africa", by John de Wilde and others (1967).

h) Guidelines for general use such as those relating to procurement and the use of consultants.

i) Articles by Bank staff, over the years, in Finance and Development dealing with these matters, such as "Project Appraisal" (1964), "Consulting Engineers and the World Bank" (1965), "Evaluating Transport Projects" (1966), "Some Economic Aspects of Education Projects" (1968), "The Project Cycle" (1970), "Animal Production: Constraints and Their Removal" (1970), "A Layman's Guide to Little/Mirrlees" (1972), "What is a World Bank Project" (1972), and "Training as an Element in Bank Group Projects" (1972).

A list of Bank publications is attached.

Attachment

Appraisal + Preparation of Projects

Mr. J. D. North (through D. H. Bickers) December 21, 1972

Hans Agerschou

Project Preparation for Transportation Projects Involving Mainly Rehabilitation, Replacement and Reconstruction

1. Subject projects aimed at re-establishing previous capacity and frequency of service appear to have become increased in numbers with time since the former colonies achieved independence and after some of these countries have experienced devastating external or civil wars.

2. Often the prevailing opinion seems to be that such projects require little project preparation and can be prepared nearly exclusively by Bank staff with no or little use of consulting firms for feasibility studies, preliminary engineering and cost estimates, and thus be appraised in short order. I think this approach is quite wrong in general and will attempt to show this below.

3. For coastal and inland water transport and railroad the services provided by the colonial powers or private companies were often more than adequate. The capacity to transport cargo and passengers as well as the frequency of service was established on the basis of other considerations than the benefits to the economy of the colony, because the economic feasibility study methodology had not been developed or financial viability was the main concern.

4. Some of the new countries inherited or nationalized extensive transportation facilities, such as those of the Burma inland waterway transport service (the Irnawaddy Flotilla), the Zaire and Kasai Rivers transport service in Zaire and various railroad networks. Through lack of skilled management and technicians, lack of or poor allocation of foreign currency the fleets of ships, navigational aids, rolling stock and railroad tracks have not been properly maintained and replaced when needed. The same facilities have in some countries suffered extensive destruction and damage in wars.

5. In a number of cases the transport for a certain mode has declined in terms of cargo tons and passengers, and/or in ton-kilometers and passenger kilometers and are less than during the last years of colonial rule, partly due to stagnation of the economy and partly due to new competing modes and routes such as roads and to a minor extent air transport.

6. Thus the idea that the service in question should be brought back to previous peak capacity and frequency of service without much analysis of present and future demands is not valid because:

a) the colonial transport capacity and frequency of service was not based on considerations of benefits to the economy of the country;

b) present and future forecast transportation demands for the modes in question may not reach previous peaks; and

c) it is often quite difficult to analyse and attempt to optimize fleet and rolling stock requirements for water transport and railroad systems other than very simple few origins-destinations and few commodities systems, and this has in most cases not been done before.

7. Except in emergency situations and perhaps a few other rare instances I consider full fledged project preparation and appraisal as necessary for these projects as for "new" projects.

cc: Messrs. Adler
Bickers

HAgerschou:bjc

Appraisal x Prep. of Projects

Cen

Mr. W. Wapenhans (through Mr. H. Pollan)

December 20, 1972

G. C. Maniatis/c

Discussion on Mr. S. Guisinger's paper: "The Selecting of appropriate Border Prices in Project Appraisals"

At Mr. Pollan's request I attended the meeting in which the above paper was discussed. Mr. Guisinger reviewed familiar conceptual and practical problems in selecting appropriate border prices, such as multiple c.i.f. prices for identical commodities, lack of comparability between domestic and imported goods, uncertainty of future price movements, data inadequacy due to under or over-invoicing, rebates, monopolistic prices. Since, in the Bank's experience, in many projects border price assumptions are crucial determinants of a project's social profitability, the collection of better and more relevant information on border prices has indeed practical significance.

To improve information, Mr. Guisinger suggests one way would be to develop operational procedures which would assure the more efficient utilization of existing knowledge about border prices on industrial commodities. The other way could be to undertake research designed to expand existing knowledge. To this end it would be advisable to prepare a manual or central file to collect information on border prices already available within the Bank group. In addition, it would be desirable to prepare, on experimental basis, a checklist of price determining factors. The responsibility for the preparation and revision of the central file should be assigned to a special small unit, and work would begin with few industries. On the research side, two areas could produce useful information: work on dumping and product quality differences. All the above proposals could be explored in the context of a case study of one industrial project. A convenient candidate would be the cotton textile industry in Nigeria, where IFC is currently involved.

During the discussion it emerged that the centralization and availability of information on border prices to interested users is desirable and the creation of such a unit on a permanent basis advisable. Such a unit should be attached to one of the operational departments, industrial projects being the most logical place. It was suggested in this context that Messrs. F. Moore and J. Wood prepare memos outlining the usefulness, scope, organization, work, etc. of such a unit for further action. Mrs. H. Hughes will coordinate the collective effort. Further, since the proposed study on textiles in Nigeria involves only a marginal cost to the Bank and promises quick returns, it was felt that it should be undertaken.

Appraisal & Preparation of Projects

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

# OFFICE MEMORANDUM

TO: Files

DATE: November 21, 1972

FROM: Bela Balassa

SUBJECT: Bank Work in Project Evaluation

1. Messrs. Chenery, Cauas, van der Tak and Balassa discussed on November 10, 1972 Bank work in project evaluation. The following summary of the discussions is based on the assumption that Mr. Henderson will accept the assignment to coordinate research on shadow prices and project evaluation in the Bank; it may serve as a basis for a memorandum by Mr. Chenery after this question is clarified. The topics covered are: the results of the recent Project Fest; the reconstitution of the Steering Group for Sector and Project Economics; the operational memorandum on project appraisal; and the research program on shadow prices and project evaluation.

2. Apart from demonstrating that, properly defined, alternative methods of project evaluation have the same information requirements and give the same results, the main benefit of the Project Fest appears to lie in its educational value to Bank staff. It has contributed to a better understanding of methods of project evaluation and of the need for using shadow prices. However, differences of opinion remain as to the practical application of alternative methods. Messrs. Balassa and Henderson have been asked to write a short memorandum stating points of agreement and the questions to be clarified.

3. The Steering Group for Sector and Project Economics has been reconstituted with Mr. Herman van der Tak as Chairman and Messrs. Bela Balassa and David Henderson as members. While the Steering Group has responsibility for Bank work on project evaluation and its relationship to sector studies, Mr. Henderson has been asked to coordinate Bank research on shadow prices and project evaluation on a day-to-day basis.

4. Under the direction of Mr. van der Tak, the Central Projects Department is engaged in an extensive revision of the operational memorandum on project appraisal. In revising the operational memorandum, use will be made of the various research papers prepared or in preparation at the Bank. Drafts of the memorandum will be circulated to those engaged in project work and, in particular, Mr. Henderson's contribution will be solicited.

5. Messrs. Balassa and Henderson have been asked to review recent Bank research on shadow prices and project evaluation and to prepare a proposal for future research. The proposal should aim at establishing a coordinated research program in the area and should cover work by Bank staff as well as by consultants. It should take Mr. van der Tak's May 10, 1972 memorandum on Shadow Prices and Project Appraisal as its point of departure. A copy of this memorandum is enclosed.

cc. Messrs. Chenery
Cauas
Duloy

BBalassa:alm

R/C-465-07

LE-UNDP
CC-JO-PLANNING ASSISTANCE (UNDP)
CC-AF-PLANNING ASSISTANCE (UNDP)
CC-UR-PLANNING ADVISORS (UNDP)

Messrs. Richard H. Demuth/Michael L. Hoffman October 18, 1972

CC-OP-G.O.R.-PROPOSAL & RECOMMENDATION OF PROJECTS

Nimrod Raphaeli VR

Staffing UNDP/IBRD Planning Projects by Bank Personnel

Mr. Hoffman has asked me to prepare for discussion a paper on (a) the background of the development planning projects in Jordan, Afghanistan and Uruguay and specifically, the means by which members of the staff have either become or are proposed as team leaders for these projects, and (b) the implications of these projects for the Bank in terms of its relations with the UNDP and with the countries involved.

(a) The Background of the Planning Projects

Reviewing the files and discussing the matter with the members of the staff who have been involved in each of the three projects reveals no general pattern. Each case must, thus, be reviewed separately.

1. Jordan -- The planning project in Jordan -- the only one of the three to have been, thus far, approved by the UNDP -- had its naissance in the updating economic mission to Jordan in February 1971, when the mission was asked to have the Bank send to Jordan someone to advise on the reorganization of the Development Board. Mr. Martin visited Jordan in March of last year, and submitted a report which recommended, among other things, technical assistance. Mr. Martin visited Jordan again in 1971 as a member of the economic team when he also helped prepare a request to UNDP from the Jordanian Government for a planning project. This request for assistance came from the Jordanian delegation to the Annual Meeting which also asked that the Bank act as an executing agency for the project when it should be approved by the UNDP. The draft proposal for the project was held up in the Bank for about three months pending the Bank's agreement to serve as executing agency. Eventually a recommendation to that effect was included in the Country Program Paper and approved by Mr. McNamara, and, after much debate over the role of the Bank in the project, was approved by UNDP as well.

The initial move to nominate Cyril Martin as the project leader came from the President of the National Planning Council of Jordan, Dr. Shafiq, in his letter of July 7, 1972 to Mr. Benjenk. Dr. Shafiq explained his Government's request as follows:

> During his first visit Mr. Martin quickly assessed our planning problems and, as you know, his report was accepted by the Government. Many of his recommendations will be implemented either as part of the project or in conjunction with it. His further visits and his help to members and officials of the Government have convinced us

that he would make a most acceptable leader of the team. Since he has been associated with the project from the beginning, he understands the problems involved and we think he could get the cooperation necessary to solve them. If the Bank would designate him as leader we believe that the project would go forward faster.

The Government of Jordan has been informed that the request for Martin's services was approved.

2. Uruguay -- The Minister of Economics and Finance, in his visit to the Bank in June of this year asked that a team of three planning advisers be provided to the Government of Uruguay. Initially, the Area Department assumed that all three advisers ought to be regular staff members, paid by the Bank and seconded for the duration of the project to Uruguay. DSD suggested that the UNDP should first be approached for financing. Consequently, Bank staff made preliminary contact with the UNDP Resident Representative in Montevideo and later in Washington who had indicated the UNDP funding might be made available for the advisory team. On the basis of these discussions the Bank concluded that utilizing UNDP financing would offer advantages for both the Government and the Bank and the Government was so informed. Concomittantly, the Bank agreed to act as executing agency for the program subject to UNDP approval.

The candidacy of Mr. Escobar came up following a casual conversation between Mr. Alter and Mr. Escober when the former raised the question about the difficulty of finding a suitable candidate to head the project which was to be discussed with the UNDP. Mr. Escobar indicated to Mr. Alter that he might be available to undertake the team leadership in 1974, at which time he would have had completed 10 years of service in Washington and would have liked to spend some time in a teaching or advisory capacity in a Latin American country. Mr. Alter seized upon the opportunity to submit Escobar's name to the Government of Uruguay which approved of the candidate.

3. Afghanistan -- The timing of the economic mission to Afghanistan (June-July, 1971), led by Mr. Abdel Meguid, coincided with the presence of a UN mission which was appraising a Government's request for technical assistance in development planning. The Bank mission, which was asked to comment on the UN report, suggested that the UN recommendation for a team of 11 experts for five years was too ambitious and proposed its scaling down. The Bank pointed out that Afghanistan has received planning assistance in various forms for a long time, and that at the present time Afghanistan

has need of a relatively small number of long-term advisers to provide general assistance and advice, but that this team should be able to call on consultants for shorter periods. Meantime the Royal Government of Afghanistan officially stated to the Acting Resident Representative of UNDP that it would not be interested in the project if the Bank did not undertake the supervisory responsibilities. While the Bank was debating the matter, the name of Mr. Abdel Meguid was raised by the Area Department as a suitable candidate to lead a team of experts at least during the initial stages of the project. It was suggested that Mr. Meguid is well acquainted with the country's relations with the Afghani officials, and particularly with the Deputy Prime Minister who was the motivating force behind the project. It should be emphasized that the candidacy of Meguid has never been officially submitted by the Bank to the Government, nor has the Government indicated preference for any particular individual--Bank staff member or otherwise. The project itself has yet to be appraised by us, and the UNDP has yet to approve it.

(b) Designation of Staff Members to the Projects--Implications for the Bank

While there has been no pattern followed in designating Bank staff members as possible leaders and/or members for UNDP-financed projects in development planning, there is a factor common to all three cases: it has been the Government's insistence that the Bank serve as an executing agency.

You will recall that when the Australian Government had asked the Bank to serve as executing agency for a planning project in Papua New Guinea in November 1971, Mr. Riley and I discussed the matter with Mr. Demuth who agreed that we go ahead with that project, and that DSD could undertake similar projects in the future if a Government had specifically indicated its preference for the Bank as executing agency.

The question whether the Bank should take one step further and designate one of its own staff members to head and/or staff such projects is a much more complex question and should be weighed in the light of the advantages and risks for both the Bank and the country concerned.

Advantages

1. I think that it is safe to assume that the governments' insistence on the Bank as executing agency stems in part from their desire to benefit from the Bank's practical approach to development problems, particularly in the identification and appraisal of projects. Lending by the Bank is tied to economic performance and it is in our interest, as well as that of the government that we lend our efforts to improve the planning machinery and methods and consequently, one might hope, the economic performance of the country.

2. A Bank staff member who will be assigned to any of these projects is likely to be an individual who has served in the Bank for at least 3-5 years, and who is fairly well acquainted with the Bank norms and methods of operation. He will look upon his assignment as a challenge as well as a continuation of his career development in the Bank. His motivation for success will most likely be greater than a consultant seeking a fixed-term assignment overseas, whose future career may or may not be affected by his success or failure in that assignment.

3. The Bank has accumulated tremendous experience and expertise in development matters. A Bank man could, when necessary, draw more easily upon that experience and expertise than someone who is not directly connected with the Bank. Moreover, in a case where the country insists that the Bank act as executing agency, having a Bank man directly responsible for the project would thereby strengthen the links between the country and the Bank.

4. It could be argued that the Bank could exercise influence in negotiating with the government an agreement that would permit easy access to the policy makers by a Bank staff member. In the advisory business this is a great asset indeed.

5. Where there is no Bank resident representative, a project director could serve the Bank in the field and, when necessary, would explain the Bank position and procedures to the local bureaucracy which is invariably quite unfamiliar with the working patterns of this institution.

Risks

1. It is important to distinguish between two categories of projects under review: one category is the purely advisory projects and the other is advisory cum training. The proposed project in Uruguay falls in the first category while the other two fall in the second. The risk stems primarily from the advisory function of both categories. The principal risk would be that a Bank-designated adviser might recommend or support policies that could be embarassing for the Bank. There is also the danger that the government would take advantage of the Bank's association with the project to promote and legitimize policies that are necessary but otherwise unpopular with the public (such as raising tariffs which, in the case of the city of Cali in Colombia, caused riots and the loss of life).

2. There could be difficulties for the Bank as well as for the Bank adviser in the field if projects prepared and recommended by the latter were found by the Bank undesirable or unworthy. The refusal of the Bank to accept recommendations made by a member of the staff temporarily assigned to a planning project could seriously undermine the adviser's authority and, consequently, his usefulness.

3. The Government might mistakenly believe that a Bank-designated project leader could generate more Bank lending than is otherwise warranted. Unfulfilled expectations, even when they are unjustified, could be blamed on the team leader.

In spite of the risks a case could be made for designating Bank personnel to UNDP-financed projects in development planning subject to certain restrictions:

1. Strict rules of selection should be applied. Under no circumstances should the Bank designate a member of the staff simply because he is "available."

2. Where the country has not specifically indicated a preference for a particular Bank staff member it is vital that the Bank make its designated candidate available for discussions and possibly for interview by the government concerned. We should always keep in mind that "expatriate experts, especially project directors, must be fully acceptable to the Government and have the personal qualifications to work through existing institutions and to relate well with the local people."[1]

3. We should avoid staffing an entire team with Bank officials. It would seem unlikely that UNDP would agree to finance an entire Bank team for a project. In any event, it would be most desirable to have non-Bank staff on development planning advisory teams to avoid any impression that the Bank is running the economics affairs of a country.

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[1] Seminars on Counterpart Training, Projects Department, April 1972, 4.01 (ii).

NR:rlc

cc: Messrs. C. J. Martin
V. J. Riley

Appraisal + Preparation of Projects

Mr. R. Picciotto

Dennis J. Parsons

October 17, 1972

FY-1974 Program

1. As requested in your note to the letter from Armstrong to Weiner, the following schedule indicates that my present planning of supervision missions:

| Country | Project | Original Schedule | Now Planned |
|---|---|---|---|
| Indonesia | Estates I - IV | Oct.'72 - Jan.'73 | Jan.73 |
| | Fisheries | August '72 | Jan. 73 |
| | Rice Processing | February '73 | March '73 |
| | Seeds | January '73 | March '73 |
| Korea | Credit | March '73 | May '73 |
| | Livestock | April '73 | April '73 |
| Malaysia | Forestry | December '72 | Jan. '73 |
| | Jengka I & II | February '73 | March '73 |
| Papua & New Guinea | Agr. Dev. I & II | May '73 | May '73 |
| | Livestock | ? | July '73 |
| Philippines | Livestock | April '73 | April '73 |
| | Rice Processing | August ? | Jan. '73 |
| | Rural Banks | May '73 | May '73 |

2. This schedule covers the most urgent supervisions, i.e. Indonesia Estates and Fisheries, Philippines Rice Processing and Malaysia Forests, as soon as staff are available for the four FY-73 appraisals now scheduled. It also allows FY-74 projects (as far as they are known to me at present) to be appraised as follows:-

| Country | Project | Timetable Date | Now Scheduled |
|---|---|---|---|
| Indonesia | Fisheries II | Sept. '72 | Jan/Feb '73 |
| Korea | Seeds | Nov. '72 | April '73 |
| Malaysia | Land Settlement Johore | April '73 | June '73 |
| Thailand | Seeds | June '73 | Aug. '73 |
| Indonesia | Estates V | Dec. '72 | N.S. |
| Malaysia | Forestry II | Sept. '73 | N.S. |
| Malaysia | Livestock - Sabah | July '73 | N.S. |
| Thailand | Credit | Jan. '73 | N.S. |
| Philippines | Credit III | Sept. '73 | N.S. |
| Korea | Livestock II | - | N.S. |
| Korea | Credit II | - | N.S. |
| Indonesia | Research | - | N.S. |

3. Those presently not scheduled can be appraised after June, or if they are ready for appraisal before this, some of the less important supervisions could be postponed, e.g. Malaysia Jengka in March and Papua & New Guinea Agr. Devt. I & II in May. It would not be advisable to postpone any of the others.

4. With the schedules presently planned it appears that this Section could appraise only 3, or at the most 5, FY-74 projects before June 1973 with the present staffing. This would mean that every member would be stretched to the utmost, with most carrying out three, and some, four, missions between now and June 1973. Some slippage in these plans can therefore be expected. As, with my present staff, it would be impossible to appraise a further 7-9 projects before December 1973, I think we should soon consider our FY-74 capacity and adjust our program accordingly.

AJParsons/ew

Appraisal & Preparation of Projects

Messrs. Gutierrez, Knox, Wiese, Division Chiefs October 16, 1972

Richard S. Dosik

Historical Record of Project Processing Times and Manpower Expenditure on Appraisal

P & B has prepared for our guidance the attached three tables. The table on project processing times was derived from the FY 70-72 timetables. It is hoped that reference to this table will assist in the preparation of more realistic timetables; any major divergences from the average times should be explained in the remarks section of the timetable. The two tables analyzing the manpower expended on appraisal in FY 71 and FY 72 should help in reviewing the work programs.

cc: Mrs. Hunter

Attachments

RDosik:pat

## FY72 Operations Program
## Manpower Expenditure and Appraisal Tasks[a/]
## (Manweeks per Task)

| | | East Africa | West Africa | East Asia & Pacific | South Asia[b/] | EMENA[b/] | Central Am. & Caribbean | South America | Weighted Average[c/] |
|---|---|---|---|---|---|---|---|---|---|
| Agriculture | - Credit | 24.7(1) | 14.5(1) | 47.4(3) | 6.5(1) | 8.7(1) | 18.9(1) | - | 26.9 |
| | - General | 21.0(11) | 21.3(9) | 33.2(4) | - | 7.8(1) | 5.6(1) | 70.9(1) | 23.7 |
| | - Industry | - | - | 48.7(1) | 50.9(2) | 38.3(2) | 51.8(1) | 47.6(3) | 46.8 |
| | - Irrigation | 40.2(3) | 21.7(2) | 29.7(4) | 30.6(3) | 47.5(7) | 32.4(1) | 10.1(1) | 38.1 |
| | - Livestock | 23.5(7) | 45.8(1) | 75.3(2) | - | 34.8(3) | | 19.1(3) | 31.0 |
| Education | | 9.7(1) | 23.1(7) | 38.5(8) | 67.6(1) | 57.8(5) | 56.0(2) | 55.2(1) | 40.1 |
| Industry | | - | - | - | 26.3(7) | 37.2(3) | - | 55.2(3) | 35.5 |
| Population | | - | - | 48.9(2) | 111.7(1) | - | - | - | 69.8 |
| Public Utilities | - Power | - | 24.8(3) | 30.1(2) | 32.2(2) | 19.5(6) | 27.0(7) | 19.6(5) | 24.1 |
| | - Telecommunications | 9.5(1) | 28.4(3) | 27.9(4) | - | 15.1(1) | 22.9(3) | - | 24.2 |
| | - Water Supply | 8.7(2) | 18.7(2) | - | 27.2(1) | 66.6(1) | 34.3(1) | 173.2(1) | 44.5 |
| Special | - Urban | - | 81.5(1) | - | - | 14.9(1) | 38.8(1) | - | 45.1 |
| | - Other | - | - | - | 17.0(1) | - | - | - | 17.0 |
| Tourism | | - | - | - | 36.9(1) | 80.8(2) | 33.8(1) | 93.7(1) | 65.2 |
| Transportation | - Aviation/Pipelines | 61.7(1) | 15.1(1) | - | 13.5(1) | - | 44.3(1) | - | 33.7 |
| | - Highways | 19.7(8) | 19.8(8) | 22.2(2) | - | 23.5(2) | 16.5(2) | 26.5(3) | 20.8 |
| | - Ports | 28.3(2) | - | 42.0(3) | 48.2(1) | 30.4(3) | 33.4(2) | 12.7(1) | 33.5 |
| | - Railways | - | 26.3(5) | 28.2(3) | 37.3(1) | 38.1(1) | 44.4(1) | 49.6(2) | 33.5 |

[a/] Includes time spent on negotiations. Minor tasks (under 5 manweeks per task) were excluded from the sample. Numbers in parentheses are the numbers of projects.

[b/] Afghanistan and Iran included under EMENA.

[c/] Weights were the numbers of projects.

Source: Projects Departments Time Recording Data FY72.

P & B
9/22/72

## PROJECT PROCESSING TIME - FY 70 - 72 LENDING OPERATIONS [a/]

| | | Departure of Appraisal Mission - Board Presentation (months) | | | | | | | Departure of App. Missi to Yellow Cover App. Re (months) |
|---|---|---|---|---|---|---|---|---|---|
| | | Sector Median | Eastern Africa | Western Africa | E. Asia & Pacific | South Asia [b/] | EMENA [b/] | Cen. Am.& Caribbean | South America | Sector Median |
| Area Median | | | 9.6(53) | 8.2(53) | 7.6(65) | 7.4(57) | 8.4(74) | 8.2(39) | 9.3(47) | 4.2 [c/] |
| Agriculture | | | | | | | | | | |
| Credit | (17) | 8.5 | 6.1( 1) | - | 10.0( 1) | 9.1(10) | 11.5( 3) | 6.5( 2) | - | 5.0 |
| General | (28) | 8.9 | 11.6( 7) | 9.6(12) | 7.3( 7) | 16.2( 1) | - | - | 15.7( 1) | 4.6 |
| Industry | (11) | 8.4 | 14.0( 2) | - | 8.4( 3) | 8.6( 3) | 8.9( 2) | - | 6.5( 1) | 4.7 |
| Irrigation | (20) | 8.5 | 8.1( 3) | - | 8.2( 4) | 8.5( 8) | 8.5( 4) | - | 17.9( 1) | 4.7 |
| Livestock | (25) | 11.2 | 16.5( 2) | 23.8( 2) | 10.5( 2) | - | 9.8( 3) | 9.1( 7) | 7.4( 9) | 4.0 |
| DFC | (42) | 7.4 | 8.8( 5) | 7.3( 2) | 6.0( 8) | 4.5( 6) | 8.7(14) | 5.9( 3) | 9.0( 4) | 3.4 |
| Education | (39) | 9.6 | 11.9( 7) | 11.7(10) | 8.7( 6) | 9.5( 2) | 8.4( 9) | 8.8( 2) | 12.2( 3) | 5.2 |
| Industry | (16) | 9.2 | - | - | 13.0( 1) | 7.1( 8) | 8.7( 3) | - | 10.7( 4) | 5.7 |
| Public Utilities | | | | | | | | | | |
| Power | (49) | 7.4 | 7.8( 6) | 6.7( 1) | 6.7(12) | 7.1( 6) | 10.0( 8) | 8.5( 8) | 7.5( 8) | 3.7 |
| Telecom. | (18) | 7.8 | 10.4( 1) | 6.7( 1) | 6.8( 6) | 6.0( 3) | 9.3( 2) | 12.5( 4) | 11.7( 1) | 3.8 |
| Water | (18) | 10.4 | 13.5( 3) | 7.1( 2) | - | - | 9.9( 6) | 10.1( 1) | 9.8( 6) | 5.4 |
| Population | ( 5) | 8.5 | - | - | 10.7( 1) | 7.6( 1) | 10.4( 1) | 6.8( 2) | - | 4.1 |
| Tourism | ( 5) | 10.5 | - | - | - | 10.1( 1) | 11.4( 3) | 8.2( 1) | - | 5.2 |
| Transportation | | | | | | | | | | |
| Aviation | ( 6) | 9.6 | 9.5( 1) | - | - | 9.7( 1) | 6.3( 1) | 11.8( 2) | 6.6( 1) | 3.5 |
| Highways | (57) | 8.3 | 8.9(12) | 7.7(17) | 7.1( 5) | 7.7( 3) | 8.5(12) | 7.0( 2) | 9.5( 6) | 3.9 |
| Ports | (15) | 7.4 | 7.6( 2) | 8.1( 2) | 7.6( 5) | 7.1( 3) | - | 5.5( 3) | - | 3.8 |
| Railways | (14) | 9.6 | 14.3( 1) | 9.2( 3) | 7.2( 4) | 10.7( 1) | 11.0( 2) | 8.9( 1) | 10.7( 2) | 4.9 |
| Urban | ( 3) | 7.5 | - | 7.5( 1) | - | - | 8.0( 1) | 4.8( 1) | - | 4.0 |

a/ The numbers in parentheses following the median time given for each sector and region, indicates the size of the sample in that group. The numbers in parentheses associated with the titles of the regions and sectors, indicate the total size of the sample in the respective regions and sectors.

b/ Afghanistan and Iran included in EMENA.

c/ Median for all projects.

Source: Project Timetables

P & B
9/22/72

Annex 7

APPRAISAL COEFFICIENTS, By Region and Sector
(in man weeks)

| | AGRICULTURE | | | | | EDUC. | IND. | POP. | PUBLIC UTILITIES | | | SPEC. | TOURISM | TRANSPORTATION | | | | AVERAGE a/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cr. | Irrig. | Gen. | Lv. | Ind. | | | | Pwr. | Telecom. | Water | | | Hwys. | Rail. | Ports | A & P | |
| **COMPLETION** | | | | | | | | | | | | | | | | | | |
| East Africa | - | - | 2.8 | - | - | 17.2 | 68.1 | - | 3.9 | - | 0.4 | - | - | 23.9 | - | - | - | 28.0 |
| West Africa | - | - | 12.1 | - | - | 13.6 | - | - | - | - | - | - | - | 6.5 | - | 3.6 | - | 15.6 |
| East Asia & Pacific | - | - | - | - | 0.4 | - | - | - | - | - | - | - | - | - | 36.2 | - | - | 24.3 |
| South Asia | 7.0 | - | 2.3 | - | - | 4.8 | - | - | 4.8 | - | - | - | - | 8.4 | - | - | - | 11.0 |
| EMENA | - | - | - | 5.2 | - | 1.0 | - | - | 5.8 | - | - | - | - | - | - | - | - | 13.1 |
| Central America & Caribbean | - | - | - | 5.3 | - | 13.5 | - | - | 19.5 | 18.8 | - | - | - | - | - | - | - | 21.0 |
| South America | - | - | 11.4 | 1.0 | - | 22.3 | - | - | 8.5 | - | 1.2 | - | - | - | 17.0 | - | - | 27.9 |
| Average | 7.0 | - | 7.1 | 3.8 | 0.4 | 12.1 | 68.1 | - | 8.5 | 18.8 | 0.8 | - | - | 12.9 | 26.6 | 3.6 | - | 14.0 |
| Plus Average for Neg. & Board | 1.9 | - | 6.0 | 4.0 | 2.5 | 7.0 | 7.5 | - | 10.0 | 5.7 | 10.3 | - | - | 10.7 | 9.5 | 2.8 | - | 6.5 |
| TOTAL | 8.9 | - | 13.1 | 7.8 | 2.9 | 19.1 | 75.6 | - | 18.5 | 24.5 | 11.1 | - | - | 23.6 | 36.1 | 6.4 | - | 20.5 |
| **FULL** | | | | | | | | | | | | | | | | | | |
| East Africa | - | - | 39.6 | - | - | 30.7 | - | - | 28.7 | - | 35.1 | - | - | - | - | 38.0 | - | 41.6 |
| West Africa | - | 39.0 | 23.6 | - | - | 29.9 | - | - | 13.6 | - | - | - | - | 38.0 | - | 14.7 | - | 33.2 |
| East Asia & Pacific | - | 14.1 | 38.9 | - | - | 8.0 | - | - | 28.8 | 18.3 | - | - | - | 28.1 | 32.0 | 46.9 | - | 33.9 |
| South Asia | 50.2 | 51.4 | 45.5 | - | - | - | - | - | - | 28.9 | - | 88.1 | - | - | - | - | - | 56.4 |
| EMENA | - | 53.5 | 31.1 | - | - | 58.9 | - | 38.7 | 58.5 | - | 34.3 | - | 56.7 | 29.2 | 60.7 | - | 22.3 | 53.2 |
| Central America & Caribbean | 17.1 | - | - | 72.1 | - | 6.8 | - | 43.5 | - | - | - | 24.1 | - | - | - | - | - | 35.9 |
| South America | - | - | - | 5.6 | - | - | - | - | 31.6 | 59.7 | 54.1 | - | - | 71.0 | - | 74.8 | - | 48.3 |
| Average | 33.8 | 39.5 | 35.7 | 38.9 | - | 26.9 | - | 41.1 | 32.2 | 35.6 | 41.2 | 56.1 | 56.7 | 29.1 | 46.4 | 43.6 | 22.3 | 38.5 |
| Plus Average for Neg. & Board | 1.8 | 4.3 | 6.0 | 4.0 | - | 7.0 | - | 13.0 | 9.7 | 5.7 | 10.3 | - | 15.8 | 10.7 | 9.5 | 2.8 | 1.8 | 7.3 |
| TOTAL | 35.6 | 43.8 | 41.7 | 42.9 | - | 33.9 | - | 54.1 | 41.9 | 41.3 | 51.5 | 56.1 | 72.5 | 39.8 | 55.9 | 46.4 | 24.1 | 45.8 |
| **INITIATION** | | | | | | | | | | | | | | | | | | |
| East Africa | - | 6.5 | 7.9 | 30.0 | 37.6 | 25.8 | - | - | 5.0 | - | 20.9 | - | - | 19.1 | - | 3.4 | 0.8 | 14.1 |
| West Africa | - | 7.0 | 14.4 | 7.2 | - | 20.6 | - | - | 10.7 | - | - | - | - | 20.5 | 19.8 | - | - | 14.3 |
| East Asia & Pacific | 2.8 | 1.9 | - | 6.8 | - | 23.1 | - | 15.9 | 9.8 | - | - | 50.0 | - | 10.4 | 10.0 | 6.0 | - | 13.7 |
| South Asia | 31.1 | 25.6 | 26.5 | - | 26.7 | - | 12.0 | 1.6 | 21.9 | - | 16.3 | 25.0 | 1.7 | - | 24.1 | - | 31.0 | 21.9 |
| EMENA | 19.9 | 5.3 | - | 1.5 | 25.2 | 30.7 | 12.5 | - | 8.0 | 41.4 | - | - | 39.5 | 8.3 | 11.3 | - | - | 18.5 |
| Central America & Caribbean | 16.2 | 4.2 | 15.4 | 19.1 | - | - | - | - | 2.1 | 32.0 | 5.3 | - | 12.7 | - | - | 6.9 | 29.1 | 14.3 |
| South America | 0.2 | 21.1 | 2.0 | 5.1 | 3.2 | - | 20.4 | - | 4.8 | - | 0.6 | - | - | 1.6 | 19.6 | - | - | 7.9 |
| Average | 14.1 | 10.2 | 13.2 | 11.6 | 23.2 | 25.1 | 15.0 | 8.7 | 8.9 | 36.7 | 10.8 | 37.5 | 18.0 | 12.0 | 17.0 | 5.4 | 20.3 | 15.0 |

a/ The average for Completion and Full is calculated by dividing the sum of the coefficients plus the Average for Negotiation and Board, for each Sector or Subsector, by the number of coefficients.

Source: Projects Departments Time Recording Data FY71

P & B
9/27/71

Appraisal + Preparation of Projects

EMENA Program and Projects Division Chiefs October 3, 1972

Stephen Eccles

Historical Record of Project Processing Times

1. In recent months P & B have sometimes used the historical record of project processing times as a means of checking the realism of project timetables for the later stages of project processing. By and large, P & B has found that these comparisons have confirmed a widespread feeling that many of the schedules contained in projects timetables are too optimistic. This leads to problems of two kinds. At the operational level the timetables become unreliable as an aid in planning staff assignments. At the Bank-wide level it leads to difficulties in estimating or forecasting the outcome of the Bank's and IDA's operations for a given period.

2. To assist in reducing these problems, P & B have prepared the attached table indicating the average historical processing time from the date of departure of the appraisal mission to Board approval, for different types of projects and for the different regions. The table also includes median processing time to the Yellow Cover Appraisal report stage. The sample includes the 388 projects approved in FY1970-72 and in most sectors the sample is large enough to be meaningful. In some sectors, however, such as urbanization and aviation, the sample is still too small to have much meaning.

3. The table is intended to assist those concerned with the preparation of project timetables to arrive at more realistic schedules. It is not intended, of course, that these historical times should be adhered to rigidly; rather, they should be used as a starting point in creating schedules which take into account the particular characteristics and problems of the individual projects. However, any large divergences from the average times would call for some comment in the remarks section of the timetable.

Attachment
Cc: Messrs. Hartwich, Votaw, Wapenhans
SDEccles:je

## PROJECT PROCESSING TIME - FY 70 - 72 LENDING OPERATIONS [a/]

| | | Departure of Appraisal Mission - Board Presentation (months) | | | | | | | Departure of App. Miss to Yellow Cover App. (months) |
|---|---|---|---|---|---|---|---|---|---|
| | | Sector Median | Eastern Africa | Western Africa | E. Asia & Pacific | South Asia [b/] | EMENA [b/] | Cen. Am.& Caribbean | South America | Sector Median |
| **Area Median** | | | 9.6(53) | 8.2(53) | 7.6(65) | 7.4(57) | 8.4(74) | 8.2(39) | 9.3(47) | 4.2 [c/] |
| **Agriculture** | | | | | | | | | | |
| Credit | (17) | 8.5 | 6.1( 1) | - | 10.0( 1) | 9.1(10) | 11.5( 3) | 6.5( 2) | - | 5.0 |
| General | (28) | 8.9 | 11.6( 7) | 9.6(12) | 7.3( 7) | 16.2( 1) | - | - | 15.7( 1) | 4.6 |
| Industry | (1 ) | 8.4 | 14.0( 2) | - | 8.4( 3) | 8.6( 3) | 8.9( 2) | - | 6.5( 1) | 4.7 |
| Irrigation | (2 ) | 8.5 | 8.1( 3) | - | 8.2( 4) | 8.5( 8) | 8.5( 4) | - | 17.9( 1) | 4.7 |
| Livestock | (2 ) | 11.2 | 16.5( 2) | 23.8( 2) | 10.5( 2) | - | 9.8( 3) | 9.1( 7) | 7.4( 9) | 4.0 |
| FC | (42) | 7.4 | 8.8( 5) | 7.3( 2) | 6.0( 8) | 4.5( 6) | 8.7(14) | 5.9( 3) | 9.0( 4) | 3.4 |
| Education | (39) | 9.6 | 11.9( 7) | 11.7(10) | 8.7( 6) | 9.5( 2) | 8.4( 9) | 8.8( 2) | 12.2( 3) | 5.2 |
| Industry | (16) | 9.2 | - | - | 13.0( 1) | 7.1( 8) | 8.7( 3) | - | 10.7( 4) | 5.7 |
| **Public Utilities** | | | | | | | | | | |
| Power | (49) | 7.4 | 7.8( 6) | 6.7( 1) | 6.7(12) | 7.1( 6) | 10.0( 8) | 8.5( 8) | 7.5( 8) | 3.7 |
| Telecom. | (18) | 7.8 | 10.4( 1) | 6.7( 1) | 6.8( 6) | 6.0( 3) | 9.3( 2) | 12.5( 4) | 11.7( 1) | 3.8 |
| Water | (18) | 10.4 | 13.5( 3) | 7.1( 2) | - | - | 9.9( 6) | 10.1( 1) | 9.8( 6) | 5.4 |
| Population | ( 5) | 8.5 | - | - | 10.7( 1) | 7.6( 1) | 10.4( 1) | 6.8( 2) | - | 4.1 |
| Tourism | ( 5) | 10.5 | - | - | - | 10.1( 1) | 11.4( 3) | 8.2( 1) | - | 5.2 |
| **Transportation** | | | | | | | | | | |
| Aviation | ( 6) | 9.6 | 9.5( 1) | - | - | 9.7( 1) | 6.3( 1) | 11.8( 2) | 6.6( 1) | 3.5 |
| Highways | (57) | 8.3 | 8.9(12) | 7.7(17) | 7.1( 5) | 7.7( 3) | 8.5(12) | 7.0( 2) | 9.5( 6) | 3.9 |
| Ports | (15) | 7.4 | 7.6( 2) | 8.1( 2) | 7.6( 5) | 7.1( 3) | - | 5.5( 3) | - | 3.8 |
| Railways | (14) | 9.6 | 14.3( 1) | 9.2( 3) | 7.2( 4) | 10.7( 1) | 11.0( 2) | 8.9( 1) | 10.7( 2) | 4.9 |
| Urban | ( 3) | 7.5 | - | 7.5( 1) | - | - | 8.0( 1) | 4.8( 1) | - | 4.0 |

[a/] The numbers in parentheses following the median time given for each sector and region, indicates the size of the sample in that group. The numbers in parentheses associated with the titles of the regions and sectors, indicate the total size of the sample in the respective regions and sectors.

[b/] Afghanistan and Iran included in EMENA.

[c/] Median for all projects.

Source: Project Timetables

P & B
9/22/72

Appraisal Cost + Preparation of Projects

# THE LITTLE-MIRRLEES METHOD OF SOCIAL COST-BENEFIT ANALYSIS

BY

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

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September 23, 1970

September 23, 1970
Carlos Sanchez-Marco

# THE LITTLE-MIRRLEES METHOD OF SOCIAL COST-BENEFIT ANALYSIS

1. Little's and Mirrlees' manual[1/] seeks to offer guidelines to the use of cost-benefit analysis from the economic viewpoint in developing countries, primarily for industrial projects in the manufacturing sector. While agricultural, power, transport and communications projects are not excluded from the principles of the guidelines, the manual says little about their special problems. Projects in sectors of the economy such as education, health and defense, where benefits are especially hard to measure, are offered limited guidelines from the manual.

2. The manual is concerned with the application of cost-benefit analysis precisely in fields in which it is considered unnecessary in developed economies. The justification for this can only be that it is felt that within such sectors of more advanced economies the profit motive, acting via a more freely operating price mechanism, will lead to an adequate and beneficient industrial development. It is, however, harder to believe that the price mechanism works in developing countries in such a way that private profits are a reasonable measure of net social benefit.

3. Since there is a strong case that a project's anticipated receipts and expenditures cannot be relied upon to measure social benefits and costs, the basic idea of Little-Mirrlees method is to use hypothetical rather than predicted actual prices when evaluating a project. These "shadow" or "accounting" prices are chosen so as to reflect better the real costs of inputs to society, and the real benefits of the outputs, than do actual prices. The whole point of an accounting price is that it shall correspond more closely to the realities of economic scarcity and the strength of economic needs than will guesses as to what future prices will actually be. The manual recommendation can be summed up by saying that the governments in developing countries should try to adopt policies which result in prices approximating as closely as possible to accounting prices - or to put it in another way, to adopt policies which ensure as far as possible that the prices which guide private decisions also reflect real social costs and benefits.

4. The manual advocates valuing the inputs and output of industrial projects by direct appeal to "border" (c.i.f. or f.o.b.) prices, in the belief that the distorted domestic price structure reflects long-run advantages and other economic conditions less accurately than world prices. The structure of world prices also reflects what the country's own domestic price structure would be if it pursued an economic policy aimed at solving the country's external payments problems in a manner that permitted the free importation and exportation of manufactured goods at an effective exchange

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1/ Ian M.D. Little and James A. Mirrlees, Manual of Industrial Project Analysis in Developing Countries. Volume II. Social Cost Benefit Analysis. O.E.C.D. Development Center, Paris, 1969.

rate and tariff structure that discriminated neither between different industrial goods nor between the manufacture of the same industrial goods for domestic and for export markets. In other words, if the economy were trading non-optimally, but was moving to an optimum foreign trade policy, the relative prices of traded goods at the port would become equal to relative c.i.f. or f.o.b. prices. The manual therefore recommends to assess the desirability of domestic production against the background of "border" prices, which better reflect this hypothetical optimum situation.

5. A distinct feature of the Little-Mirrlees method is that the use of "border" prices is suggested not only for inputs or output actually traded, but also for locally purchased inputs or for the output sold in the domestic market. A justification for this treatment is offered in the manual. It is common practice when considering projects in developing countries to separate direct foreign exchange costs and receipts from the rest - because foreign exchange often appears to be especially scarce. The result is often claimed to be the balance of payments effect of the project. But the above account should have made it clear that the balance of payments effect of a project cannot be estimated in this simple direct way. Indeed, it is positively misleading to try to do so. It is much nearer the truth to say that every output of the project is a gain of foreign exchange, and that every input implies a use of foreign exchange. If more electricity is to be produced, that will enable some other producer to use the electricity to make goods for export, or goods that would otherwise have been imported; or if not, then that producer's output can be used in one or other of these ways. Following the chain of production around, one must eventually end at commodities that are exported or are substituted for imports. Even if the goods are consumed in the country, some kind of consumer goods would have to be imported if they had not been available, in order to provide an equivalent benefit. Exactly the same argument applies to costs.

Because of these possibilities of substitution, we can compare one thing with another; and in particular, if it is convenient, compare any particular commodity with foreign exchange. It is not sensible (although very often done) to isolate a few of the inputs and outputs of the project, and regard their foreign exchange value as indicating the balance of payments contribution (or burden) of the project. Thus the manual suggests not to classify inputs and outputs according as to whether they are purchased or sold in the home market or abroad. Instead, Little and Mirrlees suggest to make a three-fold classification: (a) traded or internationally tradable goods and services, (b) non-traded goods and services, (c) unskilled labor. These categories are discussed below.

## The Valuation of Traded Goods

6. By traded goods we mean (a) goods which are actually imported or exported (or very close substitutes are actually imported or exported), but also (b) goods which would be exported or imported if the country had followed policies which resulted in an optimum industrial development. The second division (b) clearly requires an element of judgment. It is

intended to cater for cases such as the following. A country has mistakenly set up a plant which produces an intermediate good A at a very high cost - and imports are banned in order to protect it. We are considering a project produce B, which uses A as an input. If B would be socially desirable using imported intermediates, then the fact that it may be made to buy the domestically produced A at an excessive price should not be allowed, as it were, to incriminate it. An industry which is itself good for a country should not fail to be established because some bad industry has already been started.

How then do we value such traded goods? If they figure in the import bill, we value then at their c.i.f. price. If such goods are exported we value them at their f.o.b. price. It is clear that this valuation expresses their real cost or benefit to the country in terms of foreign exchange, and free foreign exchange is a good yardstick of value because it can be used to satisfy almost any need. For short, we shall speak of valuing such goods at their "border" prices, it being understood that this means world prices as they appear to the particular developing country.

World prices are used, not because it is thought that they are, in some sense, necessarily more "rational" than domestic prices, but simply because they represent the actual terms on which the country can trade. It is important to note that the use of world prices applies even if the good is actually bought from a domestic supplier.

7. Purchase taxes and import duties are excluded from accounting prices; for the project should not be encouraged to use inputs that happen to have low tariffs or taxes on them, since that may lead the country to spend more foreign exchange to no advantage. The manual recognizes, however, that the rule that one should ignore duties and purchase taxes would not be a good one if the government was using these duties deliberately as a means of discouraging one import as compared to another, for reasons that demanded respect in project evaluation. But, in reality, one cannot pretend that the structure of tariffs, as we find it in any country, is designed to provide just the influence on imports and hence internal production decisions, that the government would now deliberately choose to exert.

The structure of tariffs in most countries is far more the result of a series of historial accidents than of a deliberate attempt to influence production decisions so as to get more of this used and less of that. The import duty might be higher on one commodity compared to others because it is an important and therefore a useful source of revenue; or becuase of past programs to encourage domestic production of the commodity; or because negotiated tariff reductions had involved the second commodity but not the first. Usually, the reasons for tariffs are irrelevant to the decision whether to use one input or another in production.

— There is, however, one exception. The rule that the accounting price should be the foreign exchange cost of unit of the commodity is correct only if the price the country pays for the commodity is independent of the amount it wants to buy. If this is not true, there is a case, at any rate

in terms of narrow national interest, for discouraging use of that commodity. The reason is that an increase in demand will increase the foreign exchange cost of what is already being bought; so that the actual foreign exchange cost is more than the price of the extra amount demanded. In this case, one might well want to have a tariff on imports, and this is a tariff one would want to include in the accounting price. This might happen either because the country's demand for the commodity was a very important part of total world demand, or because any expansion in demand would force the country to resort to more expensive suppliers. The first reason for having an accounting price above the world price is applicable only rarely to the case of a developing economy. The second reason arises more frequently.

The general rule is that the accounting price for an imported commodity is the total foreign exchange cost, including any increase in the cost of existing purchases, of increasing imports by one unit. The technical term for this quantity is the marginal import cost. It will seldom be easy to tell just how much higher the marginal cost is than the world price. Probably there are few cases where the difference would matter very much. But a similar point arises in connection with exports.

8. If the exported commodity can be sold at a fixed price (in terms of foreign exchange) that price is suggested in the manual as the accounting price for the commodity. Thus, if the project produces a commodity that is being exported, it must be credited with the foreign exchange equivalent. This is correct even if the output of the project will not itself be exported, but used in some other domestic industry. For, given the demands of this domestic industry, the output of the project still has the effect of increasing exports, as compared to what they would otherwise have been.

Unfortunately, the above description of an exported commodity sounds rather unrealistic. Countries seldom feel that they can export as much as they choose of any specified commodity, without significantly affecting the price they can hope to receive. Perhaps the developing countries are apt to exaggerate the difficulties of selling goods abroad; often the problem is not so much that of finding markets as of maintaining adequate quality on a sufficient volume of production. But sometimes countries face, or feel seriously threatened by, the prospect of impenetrable trade barriers erected by the more industrialized countries.

If, on reflection, project planners decided that the limit on the export of bicycles is the rate at which good quality production can be expanded, then no special problems arise in evaluating particular production proposals (once they are reckoned to be genuinely feasible). If, however, increased production will have to be sold in less and less favorable markets, it may be necessary to reduce prices to all purchasers if exports are to be expanded. This is certainly the position in many of the markets for primary commodities; if cocoa producers try to increase production too rapidly, the price is forced down. In that case the extra foreign exchange, which will be earned by producing more, is less than the actual foreign exchange receipts from the new sales, since the price reduces the earnings of existing production.

In such a case, it is a good idea to discourage production by crediting the project with rather less than the ruling price for the commodity. This lower price, which is the increase in foreign exchange earnings per unit of extra exports, is called the marginal export revenue. It is analogous to the marginal import cost discussed in the previous section. The general rule for determining the accounting price of a commodity that is being exported is that the accounting price is equal to the marginal export revenue.

The Valuation of Non-Traded Goods

9. The most important non-traded goods and services (apart from unskilled labor which is considered separately below) are power, internal transport and construction. Occasionally, power may be imported across a border, but this is rather exceptional. Land is another obviously non-tradable resource, but it is seldom important so far as industrial projects go. To such obvious "non-tradables" may be added a good such as cement, where the difference between the import cost and the export price is large, owing to heavy transport costs, so that it may very well make sense neither to import nor export it. Skilled labor may also be sometimes treated as a non-tradable resource. On the other hand, some highly skilled labor may actually be imported. In general, the proper treatment of this "input" is difficult to decide - but, fortunately, it is not often a large element of costs.

Having decided to value traded goods at their world prices, it becomes necessary to value non-traded resources also in terms of the contribution they make to earning or saving foreign exchange. Only thus can we ensure that we are valuing everything in terms of a common yardstick. One way of allowing for this is to use a special accounting price for foreign exchange. But another way is to revalue domestic resources. This latter is the method suggested by Little and Mirlees.

The method of valuing non-traded goods and services is to break them down into their inputs. These inputs will in turn fall under one of the three categories mentioned: (a) traded, (b) non-traded and (c) unskilled labor. Items falling under category (b) can be broken down again into the three same categories, until one is left only with traded goods and unskilled labor (or land, whose importance can be ignored). In this way, following the chain of production around, one must eventually end at commodities that are exported (or exportable) or substituted for imports (or importable). In short, input/output methods are resorted to for non-traded goods.[1/] The general long-run principle advocated in the manual is that the accounting price should equal the social cost of providing a little more of a non-traded good (the marginal social cost - MSC).

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1/ It is also discussed later other short cuts, in particular a "standard conversion factor" (SCF) to be applied to all internal prices which were not treated in a more sophisticated manner. This SCF is the inverse of a foreign exchange premium.

If this cost varies with output, the level of demand will need to be predicted. For instance, if power capacity is insufficient to meet the demand and cannot be quickly expanded, there is case for postponing projects which are heavy users of electricity. This can be done by using a higher accounting price than the MSC for a few years until such time as output can be expanded to satisfy the demand. Similarly, excess capacity may arise - in which case, an accounting price below the long-run MSC will be appropriate for a few years. In the case of a public utility, and since the growth of demand depends not merely on accounting prices but also on the actual prices charged to different users, the government should ensure that actual prices charged are brought into line with accounting prices.

Ambiguous Cases

10. Sometimes project selection should take account of the ways in which the government influences demand, and this may force us to regard a commodity that is being imported (or exported) as a non-traded good for the purpose of estimating its accounting price. A straightforward and obvious case is when the country is receiving foreign aid in the form of a fixed amount of some commodity - say wheat - but the government has no intention of importing any more of the commodity than is provided by way of aid. In such a case, any increased use of the commodity in question must be provided by domestic production; and, if there is no possibility of export, increased production must be absorbed by domestic users; in no case, will the quantity of imports or exports be affected and the world price of the commodity is therefore of little help in estimating the accounting price.

A slightly less obvious case of the same situation is when the government imposes a fixed quota on imports of the commodity. The quota might be so ungenerous that many potential users would be willing to use the commodity even if its accounting price was substantially higher than the price of imports. If the quota will really not be influenced by decisions on projects that produce or use the commodity, it may be necessary to use a price above - or possibly below - the foreign exchange cost of importing; after all, one has to make sure that the demand is not in excess of the supply. In such a case as this, the government is obviously unwise to operate a fixed quota. It is absurd to produce a commodity domestically at a foreign exchange cost greater than the cost of importing the commodity. Project planners can point this out. Indeed, planning for the long run as they are, they may be tempted to take production decisions - or rather decisions not to produce - that will force the government to relax the import quota when the time comes.

Another case where a good which may normally be traded becomes temporarily a non-traded good may arise when there is excess capacity. Extra demand may then have no effect on imports of the good itself, and its accounting price becomes the accounting cost of the current inputs of the labour, fuel, and materials required to make it. Such excess capacity cannot normally be anticipated except sometimes in the case of equipment to be installed at the beginning of the life of a project.

Finally, it will be realized that the distinction between traded goods and non-traded goods is not always as sharp in practice as in theory. One may want to regard textile piece-goods as traded goods, because exports are quite an important part of total production. But the particular kinds of textile goods that are exported will usually be rather different from the kinds that are produced for the domestic market. It is obvious in this case that the whole output can be regarded as traded goods for the purpose of accounting price estimation, at any rate when the different goods are of fairly similar quality. But there may be awkward cases, where, say, small workshops produce goods of inferior quality for the domestic market; one would not necessarily want to assume in this case that the accounting price and market price were identical, just because market prices and accounting prices are identical in the case of the products of large modern firms.

How far one should go in worrying about the proper classification of a commodity depends, as does the amount of work that should be devoted to estimating the accounting price, on the importance of the commodity for the project in question.

The Treatment of Labour

11. Few categories of labour can be regarded as imported or exported "commodities". In order to estimate the social income generated by the project, one must therefore estimate the accounting price of labour by regarding it as a non-traded good. But at once there is an obvious difficulty: in many of the developing countries, the supply of labour to the industrial sector seems to be considerably greater than the demand for labour by that sector; and when one comes to think about it, there are reasons why this has to be the situation in the early decades of economic development. So, in this important case, the accounting price is not supposed to make the demand and supply equal.

There are some categories of labour for which one should want supply and demand to be equal. This is certainly true in the case of men with special abilities, skills, training, or education - such as production managers, and skilled labour generally. It is "unskilled" labour - that is, labour whose work requires only simple training that takes little time, and at which most people can be expected to succeed - that has to be treated specially. Not that it is particularly easy to estimate accounting prices for the various kinds of skilled labour and highly-educated manpower; but for these one needs only very rought estimates, since skilled labour inputs are seldom so large a part of costs that variations in their accounting prices would make much difference to project choices.

In contrast, unskilled labour may be an important input. Precisely because a developing country can seldom afford to commit all its production to consumption, it is unlikely that all those who would like jobs in industrial employment should actually be given them. So, as already remarked, the balance of supply and demand is of no help. But one can still ask by how much production elsewhere would be reduced by the employment of unskilled labour in the project under consideration. With

some exceptions, the decision to employ people will not usually have a significant effect on employment by other industrialists. The labour will therefore come, directly or indirectly, from the agricultural or service sectors of the economy. The cost to the economy of having these men work on the project can be reasonably estimated by the loss that would result if they all came from the agricultural sector.

12. To take an extreme case (which is probably not true anywhere), if there was always, every day, unemployment in agriculture, one could assume that there would be no reduction in production. This means that, from the point of view of society, it is a free resource (like the air) in that the alternative product sacrificed by using "raw" labour from its alternative use - in agriculture - would not reduce output there. In the more usual case when, at least for part of the year, labour is a bit scarce in agriculture, one should be more subtle in making an estimate. What one wants to know is the reduction in output, valued at accounting prices, that is foregone as a result of reducing the numbers working in agriculture. In principle, the probable reduction in output should be averaged over a representative collection of different crops, using the appropriate accounting price for each.

This number, the value in terms of accounting prices of the average reduction in agricultural output per man withdrawn from the sector, is called in the manual the accounting marginal productivity of labour (AMPL).

However, there are many developing countries where the AMPL is not the largest part of the social cost of labour. Society incurs into additional costs which can be regarded as the social cost of transferring labour from an agricultural to an urban environment. The main effect of this is that labour in industry commits the economy to extra consumption. Very often, unskilled industrial labour is paid a wage that allows the worker (and his household) to consume goods whose social value (goods and services consumed valued at "border" prices) is considerably greater than the social value of the reduction of output in agriculture resulting from his move to industry. If absolute priority were given to generating production that was not committed to being consumed, then the whole of the consumption of wage earners would be a cost, to be set against the benefits provided by the project. But it is impossible to justify subtracting the whole of the wage bill from the net value of production of the project. People are consuming commodities and services which they could not otherwise have consumed: they are presumably better off, and this is a benefit for which the project can take credit. As against this, more people could be provided with consumption later if it were possible to use the wage bill for investment in extra projects. The question is whether it would be better to postpone consumption in this way. The answer depends of course upon how fast the economy will be growing, and what could be done if it were possible to undertake more investment projects. The manual devotes a whole chapter (XIII) to the estimation of the shadow wage rate. This rate, multiplied by the number of unskilled people employed

by the project, would give the total social cost involved in committing the economy to providing consumption as a result of increased employment.

13. To determine the shadow wage rate, the manual seeks to consider what can be achieved by further investment; what is the probable future growth of the economy; what is the marginal productivity of labour in agriculture, and also the extent to which agricultural incomes and wages are spent on consumption.

The Accounting Rate of Interest, and Social Present Value

14. The methods outlined above give guidelines to attach a social value to the inputs and outputs for each year of the project's life. The sum of these values constitutes, in Little-Mirrlees' terminology, the "social profit" for each year. To obtain the "present social value" the annual social profits must be discounted back to present at a certain rate. If all investment were under public control, one would adopt the rate of interest such that there is just sufficient number of projects - with positive present social value - to add up to the total amount of investment which available saving (domestic and foreign) permit.[1/] When only part of investment is under public control, the effort should be made to see that the interest rate used for discounting is about the same as that rate which would give a zero present social value to the socially least desirable investments made in the private sector. In other words, planners should try to see that the marginal social yield is about the same in both sectors. Since some may feel that there is a presumption that the public sector (and others, the private sector) is more likely to produce results which are of high social advantage, full allowance should be made for benefits felt to be peculiar to either sector (such as the fact that profits are more fully saved in the public sector, or that excessive employment and lavish expenditure on prestige items is less common in the private sector). There is no case, after all such allowances are made, for adopting different rates of discount.[2/]

15. Finding the right rate of discount is not easy. A lot of guesswork is involved. One should realize however that since - by valuing inputs and outputs at "border prices" - the social profit is expressed in equivalent amounts of free foreign exchange, the interest rate should certainly not be less than what can be earned by portfolio investment abroad (5-6% in real terms). This is a lower limit that may be surpassed by too many projects, more than available savings would permit to carry out. Little and Mirrlees expect that most developing countries could achieve 10%. They consider even 15% not beyond reasonable hope in some countries.

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1/ Not all investment has however sufficiently quantifiable benefits for a plausible estimate of present social value to be possible. The total value of such non-quantifiable investments - which it is decided to carry out - must be subtracted from the available savings before trying to strike the balance suggested in the text.

2/ The authors do not advocate making any allowance for risk on most projects from society's viewpoint. In general, when there is uncertainty, the proper estimate to make of the value of each input or output item is the expected value.

If 10% is actually too small, too many projects would be accepted - more than the saving of the nation makes possible. A balance of payments deficit and a tendency to inflation would result. On the other hand, 10% might be too large. We might not use up all the saving that the nation would have been willing to do. The result would be a balance of payments surplus, and an increase in the extent to which producers find themselves with excess capacity.

The Actual Estimation of Commodity Accounting Prices - Traded Goods

16. At some point in the preparation of estimates, the amounts of the main inputs and outputs must be given in physical terms - so many tons of a particular kind of steel, so many machines of a certain specification, and so on. Consider an imported commodity, such as a piece of machinery. For a definite item like this, one can find out what has to be paid for it at the port: this is the c.i.f. (cost, insurance, freight) price, the one that is used for customs purposes and the like. The further cost of getting the machinery off the ship at the port and to the site of the plant, is the port-to-user margin. The service of getting commodities from port to user is a non-traded good, consisting partly of transport costs, partly of handling charges, partly of the services of traders, agents insurance, etc. The method used in the manual is to devide the port-to-user margin into two parts, one the transport cost, the other all the rest. The actual cost of each of these two parts then has to be adjusted so that transport and services are valued, as near as possible, at their accounting prices. It is best to keep all these transport and trade or port-to-user margins separate from the c.i.f. costs of the inputs, and add them up separately. One can later value these subtotals by using the appropriate accounting prices. (see paragraph 17 on the valuing of non-traded commodities)

A similar procedure applies in the case of an exported good. The commodity - is valued at its f.o.b. (free on board) price - the price that is received for delivering it on board ship at the port.1/ The cost of the transport and trade services involved in getting it from the plant to the ship is converted to accounting price terms and entered into the calculation as a cost. In none of these cases are taxes or subsidies included.

A complication arises when the home-produced commodity is of a different kind or quality from those that are being imported. This is very common. Home-grown varieties of raw cotton can be used for some purposes, but certain kinds of cloth (perhaps export patterns) require a higher quality raw cotton, which is imported. Heavy-duty electric motors may be imported, while smaller ones are made in the country.

In such cases, it is wrong to look up the average c.i.f. price of cotton or electric motors, and use that to value the domestic production. Theoretically, the correct price is then the export or f.o.b. price, if, e.g., the light electric motors are in fact exported (or would be exported if the country had an ideal commerical policy). If export is a very unlikely possibility, then it should be valued as a non-traded good. But

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1/ It may be important in such a case to estimate the marginal revenue from exporting instead. To do that, one has to estimate the effect of a further increase in exports on the price received, and then deduct the net effect of this on export earnings.

if it is a small item, or if the commodity in question could in some uses be substituted for imports, even if not in all, then one would not go far wrong in taking the c.i.f. price of the imported variety and multiplying it by the ratio of the domestic market price of the home variety to the domestic market price of the imported variety.

A slightly different case arises with final consumer goods, which have the same basic uses, but where the quality is different, or where consumers' preferences are such that the imported and home-produced varieties sell at different prices. A good example is American wheat, which sells at a discount compared to indigenous wheat in India and other countries.

For industrial goods, it is more often the home product which sells at a discount. Thus a domestic car may be worth less than an imported one, although both claim to be the same model. The accounting price of the home product would have then to be adjusted at a level lower than the foreign exchange value of the imported model.

A point to consider very often is the fact that there may seem to be quite a wide range of import prices for a particular product. This could be because of a difference of quality, but might also be for other reasons, for instance, differences in the size of the consignment, or because the goods were not bought at the same time. It could also be simply irrational - someone has paid more then he need have done. The project evaluator should always try to estimate the lowest price at which imports of a given quality are likely to be actually obtainable at the relevant times. This will not always be the same as the lowest price at which a good has been recently imported: sometimes, for instance, foreign firms may make sales at abnormally low prices (perhaps because of excess capacity), or because of some subsidy scheme of a foreign government which cannot be relied upon to last. But, equally, it is easy to imagine circumstances in which some recent import prices are higher than can reasonably be relied upon in the future. All this is inevitably a matter of wide knowledge, and nice judgment, about which it is impossible to generalize.1/

The above paragraph applies also to exports - except, of course, that it is the highest price which one can expect to obtain, which is relevant.

Non-Traded Goods

17. The basic rule for determining the accounting prices of non-traded goods is that domestic supply should equal domestic demand, after allowing for the influence of the accounting prices themselves, and any restrictions

1/ Sometimes, an aid or a trade agreement may cause the lowest price at which an import could be obtained to become irrelevant. In the simplest case of a loan which is tied to the project in question, the price of imported capital goods is irrelevant. The cost becomes the cost of servicing the loan. There are, however, more difficult intermediate cases about which we cannot generalize. Common-sense, allied to the principle that it is the saving or earning of freely usable foreign exchange which matters, should provide a guide in difficult cases.

on demand the government may impose. One should not be too ready to assume in advance that a commodity is certainly going to be non-traded. But there are many important commodities that almost certainly will be non-traded: above all, electricity, construction and civil engineering, transportation and services.

The case of construction is, in principle, one of the easiest. We have only to estimate the accounting cost of the inputs required for doing the construction - the labour, the raw materials, and the services of the various bits of machinery. The shadow wage will be used for labour. Raw materials are usually traded goods, and if not, can be treated by one or other of the methods we are discussing. Machinery requires rather careful treatment. A bulldozer may be used on a project for a number of years, but will not be worn out at the end of that time, so we must evaluate the services it provides in each year. The price of these services should be just high enough to justify the initial expenditure on the bulldozer. One can estimate the number of hours a bulldozer should work in a year, and how many years it will last. The price per bulldozer-hour should be falling from year to year at the same rate as the prices of bulldozers themselves may be expected to fall. Then the price of a bulldozer-hour is set at such a level that the PSV of the services of the bulldozer will just equal its cost (import cost, most probably).

The authors emphasize that the above method is correct only if there are no spare bulldozers that would otherise be idle. Since construction work is normally a rapidly expanding activity, one should hardly expect construction machinery to have no other use. But, sometimes, an earlier mistake may have left the economy with a temporary glut of one particular kind of machinery, which commands no second-hand market abroad. In that case, using the machinery does not involve any cost to the economy.

Thus, if the major construction work associated with a project can be costed in detail, then the labour used can be regarded as labour used by the project, and so can the services of the machinery used, and the raw materials. The cost in terms of accounting prices can then be calculated using the methods indicated. If the construction is supplied by the private sector one should also make allowance, for the consumption out of profits by engineering contractors, labour agents, and so on.

But when construction costs are small, or estimates are not available broken down into various parts, it will be useful to have available a construction conversion fact (CCF), which can be used to revalue the actual money cost of construction work to its cost in accounting-price terms. This can be done only roughly, but it would be a great convenience for project planners if a typical construction programme were costed in terms of accounting prices, and the result compared with its actual money cost to the enterprise. The estimate could be done for an imaginary construction project, in consultation with firms in the construction industry, or the relevant government departments; or it could be based on the actual construction work done for a number of public-sector projects, for which detailed information is available.

Sometimes, information on construction costs will be available only in the usual accounting form, where the characteristics of capital equipment are not given in detail, and are merely reflected in figures for depreciation. Depreciation plus interest charges on the book value of capital should ideally, give the cost of the services of the capital equipment for a year. But tax laws and accountants' conventions have a considerable effect on the figures for depreciation. This is not, therefore, a very satisfactory means of estimating the value of the equipment's services. One may nevertheless have to shut one's eyes to the unsatisfactory nature of the figures, and calculate the normal annual cost of providing a million rupees of construction work on the basis of data for current inputs, labour costs, depreciation, and the value of fixed and working capital. The accounting-price value of the million rupees of construction work would then be obtained as follows:

(1) Raw material and miscellaneous inputs, converted to accounting prices;

(2) Labour costs, measured at the shadow wage rate;

(3) Value of consumption out of profits, measured at accounting prices;

(4) Annual depreciation, converted to accounting-price terms by using the ratio between the accounting-price cost of the machinery, etc., and its actual costs;

(5) Interest cost, evaluated by charging the accounting rate of interest on the value of capital stock, both fixed and working capital, converted to accounting-price terms.

The sum of these items would give an estimate of the social cost of the million rupees of construction.

Electricity generation and transmission is a more complicated case than construction, becuase it costs more to supply electricity at peak times than at others, and the older or less efficient methods of producing electricity may be used only at peak hours. Also, when hydro-electric and thermal power stations form part of a single grid, it may be quite a complex matter to identify the cost of making electricity available in a certain place at a certain time.

If the input of electricity is an extremely important item, as in the case of the manufacture of some non-ferrous metals, then more expert calculations, than can be dealt with here, should really be carried out. But, in the case of a large number of projects, where electricity is neither extremely important nor negligible, the following rather crude method should be adequate.

First, make some convenient division of the day, and the week, into peak hours and off-peak hours. The normal practice of charging by the electricity authority may give some guidance. Then it can be assumed

that the accounting price for off-peak electricity is given by the according cost of the current inputs on the least efficient plant that has to be used -- neglecting the capital equipment, that is. Although this neglects some costs such as wear and tear, it is not likely to be seriously inaccurate. Next, a typical power station can be costed. To do this one must estimate for how many years of its life it will be providing off-peak electricity; and one must estimate the rate at which the peak and off-peak prices of electricity will be falling over time. For simplicity, it is assumed that both fall at the same rate (this is not a very good assumption, but then the method is admittedly crude). Finally, today's price for peak-hour electricity is determined by the requirement that this typical power station should just break even, that is, have a zero PSV. From that everything else follows.1/

Since we are trying to estimate future accounting prices, calculations of the kind described must, in principle, be made on the basis of the techniques expected to be in use at the relevant date. If current techniques are not the best available, there will be time to change, and we should perhaps base our estimates on the lowest-cost techniques for

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1/ Assume C = cost of the plant at commissioning date, interest at the accounting rate of interest being charged on earlier expenditures.
h = number of peak hours operated per annum (this will not in reality be constant: an average, weighted towards the present, should be taken).
T = number of years the plant is expected to be in use at peak hrs.
t = number of years for which the plant will operate during off-peak hours.
k = number of off-peak hours per annum that will be worked during the period t (this, like h, may also vary with time - a similar average can be taken).
g = annual rate at which accounting prices are expected to fall
r = ARI per annum
a = running cost at the time of commissioning.
p = accounting price per kwh of peak electricity at the time of commissioning.
q = accounting price per kwh of off-peak electricity at the time of commissioning.

Since, by assumption, q is equal to the running cost of a plant t years old, it follows that:

$$q = a(1 + g)^t$$

Up to time t, the social profit of the plant in the year ending at time n is

$$ph(1 + g)^{-n} + qk(1 + g)^{-n} - a(h + k) = ph(1 + g)^{-n} + ak(1 + g)^{t-n} - a(h + k)$$

After t and up to T, the social profit is:

$$ph(1 + g)^{-n} - ah$$

Summing, discounting, and setting the result equal to C, we have:

$$C = ph\sum_{n=1}^{T}(1 + g)^{-n}(1 + r)^{-n} - ah\sum_{n=1}^{T}(1 + r)^{-n} + ak\sum_{n=1}^{t}(1 + g)^{t-n} - 1 \,(1 + r)^{-n}$$

q is estimated from equation (1), and p from equation (2).

the industry; provided we have good grounds to think that the best techniques will get used. In practice, when the system of project planning in terms of social cost-benefit analysis is just beginning, it is hardly worth while to do a very detailed analysis of alternative methods of production when estimating accounting prices. The business project evaluation can perfectly well be begun using accounting prices based on the techniques currently used in these industries. The accounting prices can be revised later, if it is found that other methods of production are better.

It is not true in all industries that production could have been expanded without any change in the cost per unit of production. It is not true in railway transport, for instance. (Indeed it is not always strictly true in the cases already examined, and special treatment is needed when this convenient assumption is too unrealistic.) Thus, what we really want to know, when estimating the accounting price for railway transport on a particular route, is what it would cost to provide the extra transportation that will be required if the project we are interested in should be undertaken. But transportation will often be too unimportant a part of costs to justify a very careful analysis of this point. So, for many cases, a conversion factor for transportation, as for construction, is a useful tool. It might well be estimated by applying to the railways the same kind of calculation as discussed in the cases of construction and electricity.

But sometimes there would be a difference. The kind of situation in mind is one where a railway line is relatively under-utilized, so that traffic on the line could be expanded quite easily, without the necessity of laying new track, re-arranging signalling, expanding handling facilities, and the like. In that case, the accounting price for railway transport should be just the price that is necessary to cover the additional costs of new inputs - new locomotives, workers, rolling stock, and so on. However, one has to be rather careful when doing this kind of calculation, as it is easy to miss out some quite important costs: for instance, an expansion in traffic as a result of carrying raw materials to a new factory may result in slowing down deliveries to other factories on the line. Similarly, new traffic on a road may well greatly increase costs of maintaining it to an adequate standard.

## The Standard Conversion Factor - A Short Cut

18. When a particular input (or output) is likely to be rather unimportant in the overall evaluation of the project, or when it is difficult to get hard information about the methods of production, one has to resort to cruder methods. In such a case, one may be able to estimate the actual prices are overstating or understating the social cost.

The actual prices paid cover the cost of imported inputs, including import duties, the market cost of various other inputs, the cost of labour at the ruling wage rates, profit, and tax payments. To get the accounting price of the inputs, we would like to subtract import duties and other indirect taxes, the excess of actual wages over shadow wages, the excess of profits over that required to cover the accounting rate of interest, and to add on some allowance for the consumption out of profits by those involved in providing the services. This is hard work. It might be worth doing for a few commodities, but certainly not for all.

Instead, one can take an average of the proportions by which the domestic prices (net of purchase or excise taxes) of traded goods exceed their world prices, and use this average proportion to convert the actual prices of these goods and services into accounting prices. Since the ratios may be so disparate, it may be worth taking some care to ensure that the average is a sensible one. For example, if it is obvious that the production of a commodity depends very much upon imported inputs, one should reduce actual prices to accounting prices by applying a factor that is based mainly upon imported commodities. Similarly, if one is dealing with some raw material derived from a crop quite similar to other agricultural products that are exported, the appropriate factor should be based on exported agricultural commodities.

But quite often, it would be very troublesome to discover for some fairly unimportant input what inputs had gone into its production, or what kinds of production it directly replaced: in that case a crude average of the accounting-price/actual-price ratio for a representative selection of traded commodities would suffice. There is, therfore, some advantage in having available a standard conversion factor (SCF), calculated as the average of the ratios for a wide and representative collection of commodities (which need not necessarily be restricted to traded commodities). The calculation of such a factor is a very useful preliminary to project evaluation. It can then be applied to all unimportant or doubtful cases.

EMENA
Appraisal Cost & Prep. of Projects

CONFIDENTIAL



Mr. W.A. Wapenhans

September 20, 1972

D.W.M. Haynes

Appraisal Procedures

1. The draft Procedures for appraisal lay considerable stress on decision making during and immediately after field appraisal. They propose concurrent preparation of the Appraisal and President's Reports although in my experience preparation of the President's Report has seldom caused delay since it is done during the period after negotiations when the Borrowers negotiating team is obtaining official approval of their actions. In general, however, the main implication of the proposals seems to be a major shift of effort to the period prior to departure of the appraisal mission.

2. If it is true that Borrowers measure our processing time from arrival of the appraisal mission to loan/credit signing, this change will be for the good. It may be, though, that they are more likely to measure from despatch of the feasibility study, in which case they will notice little change. Indeed, they may feel our performance has deteriorated: if all major issues are settled within a few weeks of appraisal they may wonder why any further time is needed for processing reports.

3. The objectives of the procedures are praiseworthy. The only purpose of this memorandum is to point out some operational implications which we should take into account in preparing our work program and certainly before the first set of regional timetables are signed at the end of October.

4. The premission briefing, recognized as necessary in the draft Procedures, will be of fundamental importance, especially during the coming months when old hands are learning new procedure and new men are learning new responsibilities. For the briefing to be meaningful:

(1) The preparation report must be good in all respects. Many such reports on agricultural projects are sound enough on the mechanics of projects but weak or silent on the subjects on which most intensive briefing will be needed, e.g. international water rights (Iraq); interest rates for on-lending; (Ebro); land reform policy (draft of Abyan Delta); management (Upper Egypt Drainage).

(2) The preparation report must be thoroughly reviewed so that Program and Project Division Chiefs can decide what briefing is necessary. It is true that closer association with all stages of preparation will provide greater familiarity with the problems. However, we have not budgeted for this additional preparation for the FY74 projects and the Ebro has demonstrated how nasty surprises can arise at the last minute.

Program divisions must accept that we must program a delay of at least two months between receipt of the feasibility study and departure of appraisal missions; that any delay in receipt of the study will automatically delay appraisal; that availability of staff must be measured by availability for review rather than for appraisal missions; and that some existing timetables must be revised.

5. Our lending program is full of examples where difficulty has arisen or could arise. For example, the Program Division still insist that appraisal of Ebro should be scheduled for October even though FAO/CP have not started, nor scheduled, preparation of the livestock component and maintain that the interest rate issue should be settled in the field (presumably after diametrically opposed briefings from Program and Projects Divisions). The Euphrates I preparation mission, currently in the field, is now scheduled to finalize its report at the end of January for appraisal in March. The Cyprus Paphos project is currently scheduled for appraisal in November although we have not yet received the study. The Iraq Government and the Program Division believe that a five month delay in appointing consultants can be made up by reducing the preparation time for Shemamok from a year (needed to obtain a full season's climatic and hydrologic data) to seven months.

6. I think also that the draft Procedures may require changes in the duration of field appraisals. I welcome the participation of Program division staff in the final week (good ones will make a major contribution - bad ones we will learn to neutralize!). Nevertheless, I do not see how the proposal can be accommodated in the "3 men-3 weeks" trend apparent after recent emphasis on economy on travel and related costs. Few Program division staff can replace a member of a Projects appraisal team and presumably few can be spared for long enough so to do. In my experience, only the best and most favorably situated projects can be examined in proper detail in less than three weeks: formulation of problems and solutions will take two to three days and proper briefing of the new arrival from the Program division at least a day or two. The future trend therefore, will be to four to five weeks in the field.

7. The role that Section, and indeed Division Chiefs will play in resolving problems during field appraisal and "prenegotiations" does not emerge clearly from the draft Procedures. It seems to me that they will undertake frequent, if brief, missions particularly during the next 12 months for which we are now preparing operations programs. Since there will be no formal deputies, many administrative problems will arise in the absence of the Section Chief; who will sign outgoing mail and cables; leaverequests; travel authorizations; expense accounts; timetables; translation requisitions; consultants Form 11.01 and the other administrative documentation now signed by Division Chiefs. One aspect of this problem internal to the EMENA Projects Department, is the allocation of Editors, Administrative and Research Assistants. Three Special Services posts assigned to the Agriculture Projects Division in the first list, are shown under you in the final announcement. While I agree that the Editor should be shared with other regional Projects divisions, I consider that each of the Agriculture Projects sections needs and Administrative/Research

Assistant and all my planning has been based on the assumption that one would be assigned to each section.

DHaynes:ak

Appraisal & Preparation of Projects

Mr. D.S. Ballantine

September 12, 1972

Frank Dunnill

Project Implementation: Recording Progress

1. In the course of compiling the recent analysis of technical assistance expenditures, I was struck by the very useful "Schedule of Obligations to be Met by the Borrower" annexed to Mr. Kinawy's Supervision Report of April 6 for the Jordan Project. A copy of the schedule, which should be read together with Mr. Kinawy's Revised Implementation Schedule, is attached.

2. It seems to me that, slightly expanded to include:

(a) an indication of the periods within which the various items (e.g. fellowships, technical assistance appointments, etc.) are to be completed; and

(b) a column showing the progress reached at the time of the supervision report,

a schedule of this kind would serve two very useful purposes. In the first place, it would provide built-in framework for various types of project evaluation. In the second place, it would help Regional Divisions to review the progress of the software items in loans and credits. Subject to the views of others, I would suggest that we should prepare a pro forma on the lines suggested above for use by the Divisions, first at appraisal stage and then in the course of subsequent supervision missions.

Attachment

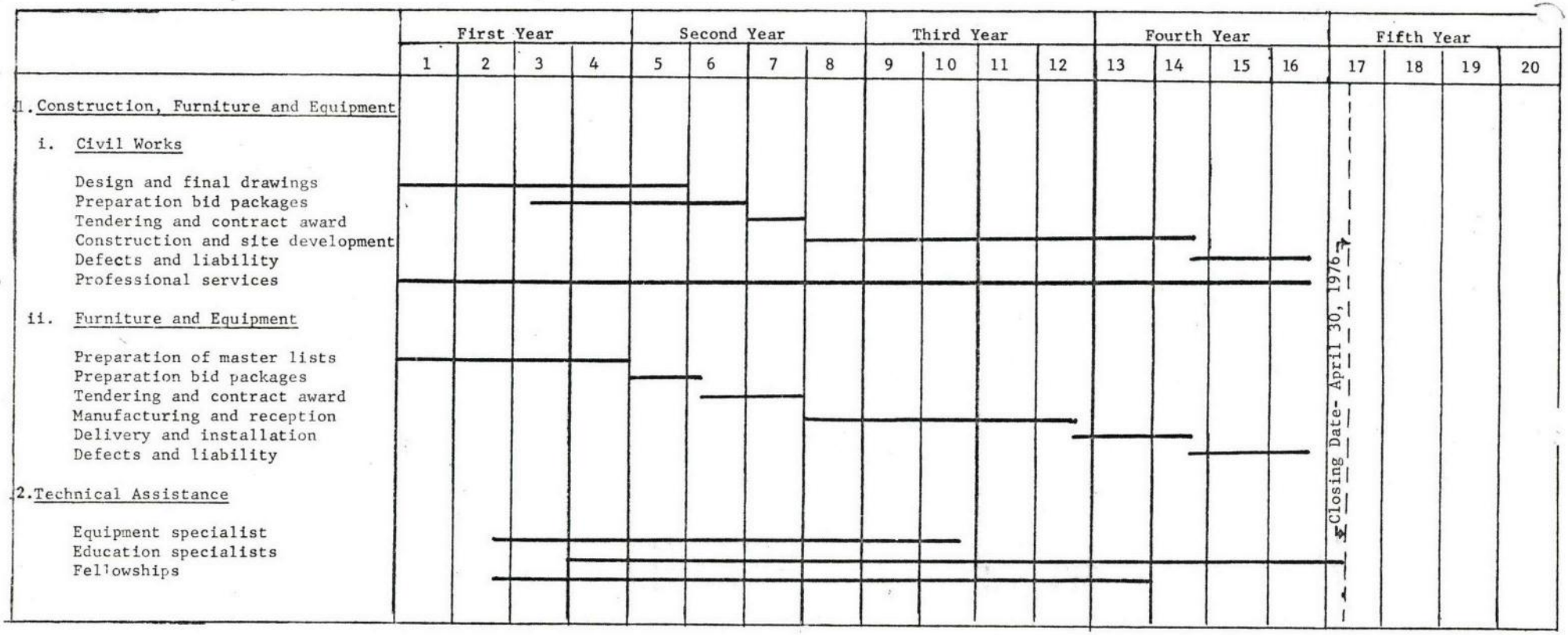
cc: Messrs. Calika, Hultin, Erder, Burt, Stewart, van Dijk

FDunnill/mc 79

ANNEX 2

JORDAN - First Education Project

Revised Project Implementation Schedule (March 31, 1972)



JORDAN

SCHEDULE OF OBLIGATIONS TO BE MET BY THE BORROWER

(Technical Assistance and Other Covenants in the Credit Agreement)



| Ultimate Date Due | Item | Reference in Credit Agreement |
|---|---|---|
| August 1972 | . One fellowship in Educational Planning | Number 3 of Annex B to Schedule 2 |
| February 1973 | . Complete and communicate to IDA a comprehensive manpower survey | Article IV - Section 4.04 |
| | . Appointment counterparts to technical assistance for two Educational Planners | Number 3 of Annex B to Schedule 2 |
| | . Establish a National Vocational Council with a Vocational Education and Training Department as its executive arm | Article IV - Section 4.05 |
| | . Establish an Advisory Council for the Polytechnic and Trade Training Center | Article IV - Section 4.06 |
| | . Establish a Coordinating Committee for Agricultural Education | Article IV - Section 4.07 (a) |
| | . Establish a Teacher Training Committee within the Jordan Board of Education | Article IV - Section 4.07 (b) |
| | . Establish an Educational Planning Committee within its Ministry of Education | Article IV - Section 4.08 |
| | . Appointment of two Educational Planners | Number 3 of Annex B to Schedule 2 |
| | . One specialist in technical subjects for the Polytechnic (U.K.) | Number 5 of Annex B to Schedule 2 |
| | . One specialist in trade courses for Trade Training Center (UNDP/ILO) | Number 6 of Annex B to Schedule 2 |

| Ultimate Date Due | Item | Reference in Credit Agreement |
|---|---|---|
| August 1973 | . Three fellowships for Industrial Arts (comprehensive schools)<br>. Two fellowships for Home Economics (comprehensive schools)<br>. One fellowship for teacher training (Teacher Training Institute) | Number 1 (a) of Annex B to Schedule 2<br>Number 1 (b) of Annex B to Schedule 2<br>Number 2 of Annex B to Schedule 2 |
| | . Ten fellowships in technical subjects for the Polytechnic (U.K.)<br>. Five fellowships in trade courses for Trade Training Center (UNDP/ILO) | Number 5 of Annex B to Schedule 2<br>Number 6 of Annex B to Schedule 2 |
| February 1974 | . Seven specialists in technical subject for the Polytechnic (U.K.)<br>. Six specialists in trade courses for Trade Training Center (UNDP/ILO) | Number 5 of Annex B to Schedule 2<br>Number 6 of Annex B to Schedule 2 |
| August 1974 | . Appointment of directors and assistant directors for the following institutions<br>1. The two comprehensive secondary schools<br>2. The Teacher Training Institute<br>3. The Polytechnic<br>4. The Trade Training Center | Article IV - Section 4.02 (a) para. (iii) |
| | . Two fellowships for Industrial Arts (comprehensive schools)<br>. One fellowship for Home Economics (comprehensive schools)<br>. One fellowship for Teacher Training (Teacher Training Institute) | Number 1 (a) of Annex B to Schedule 2<br>Number 1 (b) of Annex B to Schedule 2<br>Number 2 of Annex B to Schedule 2 |
| | | |

| Ultimate Due | Item | Reference in Credit Agreement |
|---|---|---|
| August 1974 | . Seven fellowships for technical subjects for the Polytechnic (U.K.)<br>. Five fellowships for trade courses for the Trade Training Center (UNDP/ILO) | Number 5 of Annex B to Schedule 2<br>Number 6 of Annex B to Schedule 2 |
| December 1974 | . Two Industrial Arts specialists for the comprehensive schools | Number 1 (a) of Annex B to Schedule 2 |
| February 1975 | . Establish a "tracer" system to collect and record all relevant information, in respect of the project institutions, etc. | Article IV - Section 4.03 |
| Annual | . Conduct an annual review of the plans and program for expansion of enrollment in the Borrowers' schools and communicate the results of such review to the Association. | Article IV - Section 4.09 |

P. S.

a) Fellowships dates refer to the start of training abroad.
b) Other dates indicate the latest dates for provision of the different items.

Appraisal + Preparation of Projects

Mr. Joseph H. L'Enfant

September 11, 1972

F. J. Aguirre-Sacasa

Local Cost Financing - Division A Countries

As per your request, please find below summary cost tables on the four projects approved for Division A countries in FY72. All figures are expressed in thousands of dollars.

Dahomey - Zou Borgou Cotton Project

| | IDA | |
|---|---|---|
| Total Project Cost | $12,700 | |
| Taxes | 1,500 | |
| Net Cost | 11,200 | |
| Total Foreign Exchange component | 7,600 | |
| IDA financing | 6,100 | |
| Other External financing | 3,100 | (by FAC) |

Ivory Coast - Third Highway Project

| | BANK |
|---|---|
| Total Project Cost | $28,853 |
| Taxes | 5,200 |
| Net Cost | 23,653 |
| Total Foreign Exchange component | 16,015 |
| Bank financing | 17,500 |
| Other External financing | None |

Upper Volta - Cotton Road Project

| | IDA |
|---|---|
| Total Project Cost | $ 3,466 |
| Taxes | 690 |
| Net Cost | 2,776 |
| Total Foreign Exchange Component | 1,947 |
| IDA financing | 2,800 |
| Other External financing | None |

Upper Volta - Rural Development Fund

| | IDA | |
|---|---|---|
| Total Project Cost | $ 3,043 | |
| Taxes | 445 | |
| Net Cost | 2,598 | |
| Total Foreign Exchange component | 1,558 | |
| IDA financing | 2,200 | |
| Other external financing | 311 | FAC |
| | 70 | CCCE |

FJAguirre-Sacasa:mtg

Yellow Copy

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

Appraisal x Cost x Exp. of Projects

# OFFICE MEMORANDUM

TO: Mr. Bela Balassa

DATE: August 29, 1972

FROM: Deepak Lal

SUBJECT: Comments on Your "Estimating the Shadow Price of Foreign Exchange in Project Appraisal"

1. I have some comments on your paper. The first point is a rather general one. I had a tremendous feeling of "deja vu", whilst reading your paper, and felt like one who had seen someone else get in behind him in a revolving door but saw him come out in front! Be that as it may (paranoia is an occupational hazard), there is nevertheless a substantive point in this, namely that your recent paper has the term "Estimating ..." at the beginning of its title. It, however, merely goes over the same ground concerning the differences in alternative methods of project selection, which have been treated pretty exhaustively in my two recent papers for the Bank ("Adjustments for Trade Distortion."/17 and "Alternative Project Selection Procedures.." /27.) Where your conclusions differ from mine (and they only do so marginally) they are either wrong, or represent a misrepresentation of the views of the protagonists, as I shall demonstrate below. More importantly your paper merely repeats much of the same line of argument as in my two papers, and tells us nothing more about estimating the shadow foreign exchange rate /SER/ than was contained in them. Though I see from the frontspiece to your paper that, a future Appendix will deal with these problems! Even though my papers were not really concerned with estimation pro lems, nevertheless, I think it will be agreed that, they did try to show (p. 27 and following /17; p. 23 /2/) how the LM (foreign currency as numeraire) method in practice provides a short cut around estimating the relevant SER. You (a) question this conclusion for a many commodity - many factor case (your p. 9 and following), and state that it only holds in the case where "there are only two factors of production, (unskilled) labor and capital, and labor has a horizontal supply curve so that real wages remain unchanged after the elimination of protection"1/ (p. 9 /3/). And (b) you assert that in this latter case on the alternative domestic currency as numeraire method too, there is no need to estimate an SER. I shall demonstrate below that both your conclusions (a and b) are false.

2. First consider your conclusion (a). The essential points against your arguments (p. 10) is very simple. The shadow prices of all primary factors (assuming away all other distortions apart from the relevant trade distortion) are the value marginal product of these factors in an alternative use. The domestic market price of these factors will be the given physical

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1/ You are also wrong in saying this is the case considered by Little-Mirrlees. Their assumptions are more general. The above case was a simplified case presented for heuristic purposes in my Bank papers!

marginal product multiplied by the relevant domestic price. The foreign exchange value marginal product of the factor, will be the same given physical marginal product multiplied by the relevant world price. Thus say the factor is land. Its competitive domestic market price will be the physical marginal product of land valued at domestic market prices. If the output foregone by using land is tradeable (say agricultural output) then the same given physical marginal product of land can be valued at the "world" price of the the tradeable output foregone, to yield the foreign exchange value marginal product of land. If the output foregone from land is non-tradeable, we may nevertheless be able to determine its foreign exchange equivalent value, if it is substitutable in production and/or consumption with another tradeable good. /See LM Manual pp. 93-94 and p. 115/7.[1] Thus we directly obtain the foreign exchange value equivalents of factor prices which will be the "shadow" prices of these primary factors on the LM method. No recourse has been required to an SER. However implicitly from the ratios of foreign exchange equivalent values to domestic currency (market) values of the non-traded goods and the primary factors the implicit SER"s which would be used on the domestic currency as numeraire methods can be derived. If we have only one non-traded good and primary factor (as in the simple but by no means trivial models of may papers), there will just be one implicit SER (or standard conversion factor (SCF) on the LM method). However in a many good model, with differing effective rates of protection of traded goods, there will be multiple implicit, SER's. The LM method would explicitly estimate the equivalent multiple SCF's for the non-traded goods and primary factors[2] (as a mere glance at any of the recently published case-studies applying the LM method will show). The domestic currency as numeraire methods would however use a single SER, which would imply averaging over the actual multiple SER's which exist. Hence my general conclusions (see p. 23 /27): (i) that on the LM method, independent estimates of the SER are redundant, as the method provides a shortcut to estimating the SER, and (ii) that the derivation of multiple SCF's (and hence multiple implicit SER's) on the LM method, is likely to be more accurate than the use of a single SER on the "domestic currency/prices" methods, when there are in fact, multiple effective exchange rates extant in the country.

3. Next consider your conclusion (b) (p.9). You have arrived at this conclusion by first, adopting the Little-Mirrlees method of shadow pricing non-traded goods by decomposing their costs of production into tradeables

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1/ There maybe some difficult cases where neither of these methods of obtaining the foreign exchange value marginal product of a factor (or value of a non-traded good in general) may work. These and ways around them are discussed in LM's reply to their critics in BOUIS Jan. 1972, p. 160 following. The practical presumption (borne out by the case studies conducted around the Manual) is that such difficult cases will be fairly minor in most developing countries. However, as emphasized in my Bank papers /(1) and (2)/, if the number of such goods (and non-traded goods in general) is very large relative to traded goods, then the SER method is likely to be easier to use in practice.

2/ These SCF's will be the ratios of the value in foreign exchange to that in domestic prices of the relevant goods and factors.

and primary factors[1] (your p.6 ). Neither in the UNIDO nor Bacha-Taylor paper (which gives the methodology for the use of a free trade SER in project appraisal) is this decomposition suggested. Secondly, and more importantly, in your transition from equation (6) to equation (7), the rental rate on capital in domestic currency /$P_k$ which is part of the $P_f$ in your equation (6)/, suddenly becomes transformed into the rental rate in foreign currency /$P_k^w$ in your equation (7)/! Now it does not take great ingenuity to show that once non-traded goods are shadow priced by the semi-input output form of decomposition, and primary factors are valued in foreign exchange, explicit estimation of the SER becomes redundant, because this is then the IM method! If what you call the 'domestic prices' method is identical in all its adjustment procedures to the IM method, obviously, the SER disappears on your 'domestic prices' method too.[2] However, if we take the 'domestic prices' method as propounded by its principal exponents, namely that the shadow prices of non-traded goods and primary factors are their domestic money prices (assuming no other distortions), then even in the case of an elastic supply of labor at a constant real wage, an estimate of the SER will be necessary to make the two sets of values (traded goods in foreign currency and non-traded goods plus primary factors in domestic currency) comparable. /See/1/ p. 29-30/. The reason why you reach your conclusion is that you have for this case, redefined the 'domestic prices' method to be the IM method!

4. You accept the analysis as regards the redundancy of the SER calculation on the IM method in terms of my extremely simplified heuristic example of an economy with an elastic supply of labor at a fixed real wage in terms of tradeables, (your p. 10). It does not take great economic intuition and imagination to see that, relaxing the assumptions of perfect elasticity of supply, fixed real wages, and/or introducing a multiplicity of primary factors does not change the argument. As long as economic theory tells us that the shadow price of primary factors is the value of the physical marginal product of the relevant factors in an alternative use, then given the physical marginal product of the factor, it can be directly

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1/ Ian Little explicitly noted in his first statement of his methodology in a volume of essays in honor of Nehru) that his basis for valuing non-traded goods was identical to the Tinbergen semi-input-output method which you now cite. (Your footnote 1/ p.6).

2/ This point was made explicitly in my paper /1/: "The last statement seems to imply that it is equally irrelevant that we do not have an accurate estimate of $e^*$ (the free trade SER) on BT (Bacha-Taylor) procedures. This would be true if the IM procedures of identifying and estimating $P_{lf}$ (the wage rate in foreign currency), $P_{kf}$ (the rental rate in foreign currency), and thereby determining $p_n^{**}$ (the 'shadow' price of non-traded good in foreign currency) were also followed on BT procedures. In practice, however, this is not likely to be done, and only the prices of X and N will tend to be 'shadow' priced with $e^*$ and the domestic price of N ($P_n$) will be taken as its shadow price. But in that case, especially in a relatively open economy, a correct estimate of $e^*$ becomes essential" /"Adjustments for Trade Distortion..." p. 30, emphasis in original/

valued in foreign exchange if it is the marginal product of a traded good, and indirectly if non-traded, by the making use of the substitution relationship inherent in a general equilibrium world between traded and non-traded goods. Explicit estimation of the relevant SER in fairly open economy remains redundant on the LM method, and that it is why it already provides us with a short cut around estimating the SER.

6. As you advocate the use of Tinbergen's semi-input-output method for determining the "shadow" prices of non-traded goods, and as this is the identical basis for estimating non-traded good "shadow" prices on the LM method, can I assume that once you have taken the next "teeny-weeny" step of estimating SCF's on LM lines for primary factors you too will be a convert to the LM method, and will recognize the redundancy of estimating the SER in practice in project evaluation!

DLal:hrv

cc: Messrs. Reutlinger
Van der Tak
Henderson
Chenery
Stern
Hayes
Duloy
Blitzer
Goreux
Duane
Parish
Hawkins
D. Anderson
Mrs. Hughes

Appraisal Cost & Eval of Projects

August 25, 1972

Professor A. C. Harberger
Department of Economics
University of Chicago
1126 East 59th Street
Chicago, Illinois 60637

Dear Professor Harberger:

You may be interested in reading the enclosed. I would be interested in, and grateful for, any comments you might wish to make.

The gist of my argument is that the "correct" shadow price to employ in cost-benefit analysis is typically a weighted sum of MSV and MSC. I call this the "ceteris paribus" shadow price - perhaps redundantly, since Daniel Schydlowski has pointed out that it is identical to what he calls the "second best" or "general disequilibrium" shadow price. My position seems somewhat at variance with yours, as set out in your Survey of Literature on Cost-Benefit Analysis for Industrial Project Evaluation, where, on pp. 241-243 you advocate the valuation of project inputs and outputs at their market prices (assumed to equal their MSV's) as a general rule, though you do admit particular exceptions, one being the case of an input in perfectly elastic supply and subject to an excise tax. In connection with that example you note that although additional output could be sold at slightly below the market price, it will not be so sold because this would entail a loss to producers; and that expansion of output is strictly contingent on the emergence of additional demand at the market price. I make a similar argument in the case of an input produced by a monopolist (pp. 6-7 of the enclosed); and, indeed, believe it to be a generally valid argument for not valuing project inputs at their MSV if they in fact come from increased production with MSC $\neq$ MSV. I appreciate that there may be pragmatic arguments for sticking to market prices as a general rule: Your avoidance of double-counting argument is one; another is Schydlowski's contention that the adjustments occasioned by the implementation of projects are frequently concentrated on the demand margin, rather than on the supply margin, so that more often than not (in my terminology) $P_1=P_2$. But my conclusion (as stated on p. 7 of the paper) is that, conceptually, it is inconsistent to evaluate a good in accordance with its MSV in the presence of some existing constraint, when that MSV can be obtained only if the constraint is relaxed.

With kind regards.

Yours sincerely,

Ross M. Parish
Agriculture & Rural Development Division
Economics Department

Appraisal Cost & Eval of Project

August 25, 1972

Professor A. C. Harberger
Department of Economics
University of Chicago
1126 East 59th Street
Chicago, Illinois 60637

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With kind regards,

Yours sincerely,

Rose M. Parish
Agriculture & Rural Development Division

Appraisal + Preparation of Projects

Mr. M.D. ffrench-Mullen

August 22, 1972

M. Altaf Hussain

Safeguarding Against Project Over-runs

As requested, my comments on the above subject are as follows:

1. The suggested remedies to avoid cost over-runs would be effective if those could be applied. Some of them, however, are very difficult to implement as explained below.

2. Para 2.6 - It is suggested that expectation of continued work in a region would enable contractors to lower their bids. In practice, it is difficult because neither the Bank can commit in advance on possible other projects, nor can the projects be so coincided as would ensure continued work. Such dovetailing would be particularly difficult in large projects where ICB would be involved.

3. Para 2.10 - Price fluctuations are very difficult to forecast precisely. Consultants are bound to err although with effort and honesty, the margin of error is reducible.

4. Para 3.1 - Consultants at times are appointed long before Bank gets in the picture. Also, pessimistic consultants do not find much business. It is employer's expectation and consultant's effort to use most optimistic assumptions to make the project attractive.

5. Para 3.3 (c) and Annex - Black listing on point basis is a matter of academic luxury. Its determination in practice would be extremely difficult. Moreover, black listing for suggested period of one year after discovering 25% under estimation in 10 different projects is not much of a penalty.

6. We suggest that appraisal teams should be asked to critically review the estimates of consultants in order to reduce the margin of error. If project appraisal teams cannot do this effectively, the objective of appraisal would be greatly lost.

MAHussain:cfa

cc: Mr. Wapenhans

Appraisal Cost & evaluation of Projects

Mr. Martin Karcher August 16, 1972

S. Anand

Comments on some Papers by Lal.

1. As a consultant to the Economics Department, Mr. Deepak Lal has recently produced a spate of survey papers dealing with important aspects and problems of project evaluation. These range from the treatment of trade distortions in project analysis to the inclusion in the shadow wage rate of the marginal disutility of work. The individual papers are:

(i) "Adjustments for Trade Distortions in Project Analysis", March 1972, Economic Staff Working Paper No. 128

(ii) "Alternative Project Selection Procedures for Developing Countries: A Critical Survey Without Tears", July 1972

(iii) "Employment, Income Distribution and a Poverty Redressal Index", March 1972, Economic Staff Working Paper No. 129

(iv) "On Estimating Income Distribution Weights for Project Analysis", March 1972, Economic Staff Working Paper No. 130

(v) "Disutility of Effort, Migration and the Shadow Wage Rate", August 1972.

Papers (i) and (ii)

2. Paper (i) reviews alternative procedures suggested in the recent literature on project evaluation which take trade distortions into account. Given the existence of non-optimal trade controls (in the form of tariffs or quota restrictions) in many LDCs, their domestic market prices get distorted out of line with international comparative advantage, and a system of multiple exchange rates (rates which convert domestic money prices into foreign money prices) results. Consequently, different methods of 'shadow' pricing have been suggested to reflect the true social values of the inputs and outputs of investment projects. Although several methods[1] have been advocated, they can all be reduced essentially to variants of two basic procedures: the Little-Mirrlees (henceforth LM) method, and the UNIDO type shadow exchange rate (henceforth SER) methods.

3. The LM method takes foreign exchange as its numeraire, and values tradeable inputs and outputs at their border prices (cif price for importables, fob for exportables). Non-tradeables are valued at the marginal social (foreign exchange) cost of their production, determined by breaking down

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1/ These are due to Harberger, Schydlowsky, UNIDO, Bruno-Krueger, Bacha-Taylor, Balassa, and Little-Mirrlees. The references may be found in the bibliography to Lal's paper (i).

(e.g. via the input-output technique) costs of production into tradeables and primary factors. The former are then valued at border prices, and the latter by evaluating their marginal products in terms of foreign exchange.

4. SER methods choose domestic currency as numeraire, and calculate a single shadow exchange rate to value all traded goods in terms of domestic currency. However, calculation of the SER requires the domestic and border prices of all traded goods, the SER being defined as the..."weighted sum of domestic prices of traded goods, divided by a similar weighted sum of world prices, the weights in each case being the marginal changes in imports and exports induced by the project" (See p. 215 of UNIDO Guidelines for Project Evaluation, UN, 1972). Non-traded goods are valued at their existing domestic market prices.

5. With the use of the simple two factor, two traded, one non-traded good model of neoclassical trade theory, Lal demonstrates the equivalence of IM and SER procedures on identical assumptions about trade, technology and the social welfare function. Although the equivalence must necessarily hold in a logical sense if the same objective function is being maximized subject to the same constraints, the problem has been to identify the premises, and interpret the conclusions, of each procedure in a common language. This has been a major factor responsible for much of the debate concerning the various procedures, and Lal's paper is a contribution in reducing the alternative procedures to a common framework. I feel, however, that Lal's 'proofs' of equivalence are based on too restrictive a model. In the model presented in paper (i), the production possibility frontier (page 34) remains constant as in the static model of international trade. Capital investment in an industry is represented entirely by a marginal move along the given production possibility frontier, whereas an increase in the capital stock should also marginally move the whole frontier outwards. As the frontier might move out in a non-uniform fashion, the dynamic optimum could turn out to require the production of goods in proportions reverse to those of the static optimum. Although such considerations might upset Lal's analysis, they would also complicate it substantially. All the same, a dynamic model such as presented in the Appendix for Professional Economists of the Little-Mirrlees Manual[2/] is needed in order to assess the full implications of the different procedures in a growing economy.

6. Paper (ii) is a restatement of the propositions advanced in papers (i), (iii), (iv), and (v) but without the accompanying algebra or geometry; it is therefore a survey "without tears". Illustrations of the various procedures are developed through numerical examples, and

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2/ Or, alternatively, as presented by Michael Bruno: "Resource Allocation over Time and the Real Exchange Rate," July 1972, Hebrew University and Falk Institute, Jerusalem.

the paper is on the whole very readable. The general sermon that Lal preaches (pp. 23-30), with which I have considerable sympathy, is that the IM procedure is the best practical method available for project selection in an economy open to international trade. The reasons given by Lal for preferring IM to correctly applied SER procedures are:

(a) the IM procedure, contrary to popular impression, requires the estimation of fewer shadow prices. Both IM and SER procedures require data on the world prices of traded goods; the SER procedure, in addition, requires information on their domestic prices, and the subsequent calculation of the SER. So that..."as most developing countries are likely to be fairly open economies, the IM procedures are likely to be easier to apply and more accurate than the alternative SER procedures, both because the former do not necessitate explicit estimates of the SER, and hence have one less 'shadow' price to guess or estimate in practice, and because they do not involve averaging over a large number of ... multiple exchange rates on traded goods to obtain the crucial relative price of traded to non-traded goods" (Lal paper (ii), p. 29).

(b) Another, perhaps somewhat less convincing, argument for favoring IM over SER procedures is one of diplomacy. Lal argues that (paper (i), p. 32)..."governments are not likely to take kindly to the calculation (and publication!) by project evaluators, of the 'shadow' exchange rate for their countries (especially if these calculations are done by 'outsiders') as this would be open acknowledgment that the 'official' exchange rate was wrong!..."

Papers (iii) and (iv)

7. These two papers attempt to define income distribution indices for possible incorporation into project analysis. Paper (iii) correctly argues that the 'employment' problem in developing countries is distributional in nature, and goes on to develop the 'poverty redressal index' (PRI) of a project in terms of its employment impact on two different income classes. The PRI is a measure of the number of people below an arbitrarily defined poverty line, whose annual incomes are raised in perpetuity per annual resource cost of the project. As such, it is slightly more sophisticated than conventional measures such as jobs created per unit investment. It is that little bit better because it counts only those jobs generated for people living below the poverty line, and because it reduces all project expenditures (capital and recurrent) to an annual resource flow by means of a discount rate.

8. Several criticisms can be levelled against Lal's PRI statistic. Firstly, the index is a mere body count, with no consideration to the amount of income received by a poor worker. Thus if the same wage bill is redistributed amongst twice as many poor workers with one group getting 90% (i.e. almost as much as before) of the wage bill, and the other group only 10% of it, the PRI would have doubled! Secondly, a zero weight is attached to workers even just above the poverty line. As drawing the poverty line is itself an arbitrary matter (Lal takes the poverty line to be the level of per capita income in the country), the index will be rather sensitive to different opinions about the poverty line if one accepts Lal's rigid zero-one weighting of worker incomes above and below the line, respectively. Thirdly, despite the numerous value-judgments embodied in the PRI, one is left with no idea about how to trade-off the PRI against the internal rate of return of a project. The PRI statistic is thus of little use in project choice.

9. The approach to the distributional problem taken in paper (iv) helps to circumvent some of the intrinsic deficiencies of the PRI. Paper (iv) is concerned with deriving distributional weights on the basis of an explicit social utility function. Lal applies a mathematical model developed by Francis Seton in his work Shadow Wages in the Chilean Economy to obtain distributional weights for different income classes (/regions) in India. The method involves specifying a constant elasticity[3/] social utility function, and deriving the social value in utils of equiproportionate income increases to different income groups. These utils are then translated into money values (or what Lal calls 'national homogenized units') by choosing as norm the social utility from an equal sharing amongst recipients of the aggregate rise in income.

10. Apart from this intra-temporal aspect of income distribution, Lal also applies the LM correction for a suboptimal inter-temporal income distribution. The latter is reflected by the premium LM attach to current savings (i.e. future consumption) relative to current consumption. This premium is easily calculated given the elasticity parameter of the social utility function and the marginal product of capital. The method of arriving at distributional weights is then illustrated by Lal with reference to the existing income distribution in India. When the elasticity of the social utility function is -1 and savings is three times as (/equally) valuable as consumption, then Rs 10 accruing to a person whose income is Rs 100 is worth Rs 18 (/Rs 55) from the viewpoint of society, whereas Rs 60 accruing to a person with income of Rs 600 is worth only Rs 2 (/Rs 5) (See Lal paper (iv), Appendix Table 3). If his computations are valid,

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3/ With elasticity less than 1 to ensure diminishing marginal utility. It should be noted that the lower the elasticity, the more egalitarian the social utility function. An elasticity of -1 (i.e. elasticity of the marginal utility function of -2) means that if there are two income groups A and B such that A's income is twice B's, then an incremental unit of income accruing to A will have a social value only one quarter that of the same unit accruing to B.

these extreme results would be due in part to the egalitarian nature of the social utility function chosen, and in part to the existing maldistribution of income.

11. These distributional weights can easily be incorporated into the IM formula for the shadow wage rate, and hence may be used in project appraisal. They would lead to a negative shadow wage for poor workers.

Paper (v)

12. This paper is a survey of recent literature on the shadow wage rate, incorporating various components suggested by different authors into a single derivation of it. These components include:

(a) the divergence between the market wage for labor and its alternative marginal product;
(b) the 'consumption cost' of extra employment in view of the premium attaching to savings vis-a-vis consumption;
(c) the possible social cost of reduced private leisure from employing previously unemployed (or under-employed) persons;
(d) the cost implication of the additional output foregone as a result of 'overmigration' induced by a project.

These and other determinants of the shadow wage rate are also discussed in a short note I prepared last February which is attached to this memorandum.

Applicability to Transportation Projects

13. There are no special problems in applying elaborate versions of the shadow wage rate to transportation as opposed to industrial or other types of projects. Nor are there any particular difficulties in applying LM world prices to their tradeable inputs and outputs. A special problem would, however, seem to arise in valuing some of the non-tradeable benefits of transportation projects.

14. One non-tradeable benefit is time savings, and it is not obvious how the foreign exchange value of this should be estimated. Part of the reason is that it is difficult in the first place to estimate the domestic currency value of time. If workers were free to choose the number of hours they worked at the going wage rate, there would be strong theoretical reasons for valuing time on the margin at that wage rate. This in turn would equal the marginal product of labor, whose foreign exchange value is computed anyway on the cost side of the project. But, since hours of work are institutionally fixed, it need no longer be true that workers value time marginally at their wage rate; the value could conceivably turn out to be lower or higher[4] than the wage rate. With this wedge between the opportunity cost of time to

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[4] As it surely is for many executive workers.

workers and that to producers (which is labor's marginal product), it becomes difficult to assign a social value to time. Different project evaluation procedures would choose different values in the above range. I reckon that the spirit of the IM Manual dictates choice of the value of labor time as it is to producers. In terms of the IM numeraire, it would therefore be the foreign exchange value of the goods actually produced with the extra labor time available as a consequence of the project.

15. Apart from time savings, and reductions in operating expenses (which are in principle tradeable), other benefits of transportation projects are mainly of the 'stimulus to economic development' variety. These appear to be equally easy or difficult to quantify in terms of any project appraisal method.

Attachment

cc: Mr. Pouliquen

SAnand:tkp

DRAFT
S.Anand:jmd
February 2, 1972

# THE SHADOW WAGE RATE

1. One wants a set of prices which, when multiplied by the corresponding inputs and outputs of a project, discounted and summed, will enable one to accept or reject the project according as to whether this sum is positive or negative. Assuming that one is judging the project from the standpoint of society, rather than that of a private entrepreneur, these prices must measure social benefits and costs. One can use actual prices, but these may be very unsatisfactory. "Shadow" or "accounting" prices are therefore used instead. What concerns us here is the shadow price of labor, i.e., the shadow wage rate.

2. The divergence between the market wage in industry and the social cost of labor is particularly serious in developing countries. Although there are many factors which can contribute to this divergence we shall consider two:

(i) The wage rate in industry overstates the opportunity cost of labor drawn from the agricultural sector. This is a reflection of the fact that (competitive) equilibrium does not prevail in the market for labor. This may be the case because trade unions have been able to raise wages above the market-clearing level (which level would reflect labor's relative abundance or scarcity). Thus, the true cost of labor may be considerably lower than is indicated by the market wage rate. Such a situation will lead to the rejection by private entrepreneurs of labor-intensive projects which may however be desirable from a social point of view.

(ii) It is commonly believed that the rate of savings in such economies is less than socially optimal.[1/] This means that at the margin

1/ Since society is a continuing entity, the planner should take into account the well-being of unborn generations. The present generation's concern for future generations is not adequately reflected by the level of market savings, because savings is in the nature of a "collective good". Individualistic action by members of the present generation (the "isolation paradox") leads to the sub-optimality of the market-determined level of savings.

investment has a higher social value than consumption.[1/] The distortion implies that employing another man in industry can have a cost over and above the agricultural output lost in transferring him from agriculture. This extra cost will arise only if there is an increase in his consumption. It will be that part of the increase in his consumption which is not as valuable as investment.

3. A few symbols will help to clarify the argument. Suppose the industrial worker is paid $c, all of which he consumes. Suppose that, had he been left in agriculture, he would have produced and consumed his marginal product $m. Let there be a public project in the industrial sector which employs L laborers and adds value of $V. The extra consumption caused by the project is therefore L(c-m). Following Little and Mirrlees,[2/] we will use government savings as the numeraire. Assume that $1 of extra government savings is worth $s (larger than 1) of extra consumption. As indicated in paragraph 1 we are seeking an expression for the net social benefit of this project. We restrict attention to net social benefit, or social profit, in any one year.

4. The social profit due to the project consists of its savings, plus the value in terms of savings (the numeraire) of the extra consumption caused. Thus,

$$\text{Social profit} = \text{Savings} + \text{Savings equivalent of consumption}$$

$$= (V - Lc) + \frac{L(c-m)}{s}$$

$$= V - L\left[c - \frac{1}{s}(c-m)\right]$$

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1/ The underlying assumption here is that government tax policy is unable to raise the rate of savings. Any changes have to come about through project selection itself. Given a fixed wage all of which is consumed, a link is established between employment in industry and total consumption. By choosing a higher or lower level of labor-intensity in project design, one can thus vary the proportion of saving out of income.

2/ I.M.D. Little and J.A. Mirrlees, Manual of Industrial Project Analysis in Developing Countries, OECD (1969). The formulation for the shadow wage rate that we consider here is due to them.

We wanted an accounting price w* for labor, such that if the input labor was valued at this price then the simple expression V-w*L would correctly measure social profit. From the above equation it is obvious that the shadow wage w* is given by the formula

$$w^* = c - \frac{1}{s}(c-m)$$

Rearranging, $$w^* = m + (c-m)\left(1-\frac{1}{s}\right)$$

This now corresponds to the argument at the end of paragraph 2(ii). The second term is that extra cost, since $\left(1-\frac{1}{s}\right)$ is clearly the premium (i.e., the extra weight) attaching to investment vis-a-vis consumption.

5. The limiting values of w* are m when s = 1 (investment and consumption are equally valuable), and c when s is infinite (workers' consumption is completely valueless to society). In words, the limiting values of the shadow wage rate are, at the lower end, the alternative marginal product of labor, and, at the upper end, the actual wage itself. In general, the shadow wage always lies somewhere in between. It should be noted that even if there is surplus labor in agriculture and its marginal product m is zero, the shadow wage will still be positive (except when s = 1).

6. In terms of paragraph 1, we should choose all projects which make a positive contribution to social profit, and reject all those that do not. So in the optimum situation, the marginal project should make a zero contribution to social profit. This is equivalent to saying that at the optimum

$$0 = V_o - w^* L_o$$

where $V_o$ and $L_o$ are respectively the value added and labor employed by the marginal project. Therefore, at the optimum, $w^* = \frac{V_o}{L_o}$, which is equal to the marginal

product of labor in industry if the project is 'small'. Indeed, this is frequently taken to be the starting-point for the definition of the shadow price of labor. The shadow wage rate can be defined as that price of labor which if equated to the marginal product of labor will give an optimal allocation of labor.[1/] A low value for the shadow wage therefore implies that the optimal situation corresponds to a high level of employment.

7. The concepts of shadow wage adopted above need to be distinguished from the one used in the programming sense. Our allocation problem in a programming exercise would be to maximize the social objective function subject to the various available resources, including labor. Programmers define the shadow price of a resource by its 'dual'. In a programming problem, the dual variable associated with a resource represents the marginal return (in terms of the objective function) to an extra unit of that resource. The difference between this definition and ours can be best illustrated by focussing upon the case of surplus labor. Since labor is not a binding constraint in this case, the marginal return to having an extra unit of labor is zero. So in the programming sense the 'shadow price' of labor in a surplus labor economy is always zero. However, as pointed out earlier, our shadow wage w* is generally positive even when there is surplus labor.

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1/ With this definition as the starting point one can establish the formula for the shadow wage as follows: Suppose employment is optimal. Then, the marginal social benefit from employing an extra man in industry must equal the marginal social cost. The benefit from employing an extra man in industry is his marginal product (=w* since employment is optimal) minus the output m lost in agriculture. The cost of employing an extra man is the loss of savings equal to (c-m), minus the savings equivalent of the increase in total consumption which equals $\frac{1}{s}(c-m)$. These two expressions must be equal. Therefore,

$$w^* - m = (c-m) - \frac{1}{s}(c-m)$$

i.e., $$w^* = c - \frac{1}{s}(c-m), \text{ which is the same as before.}$$

8. The value of s to be used in calculating the shadow wage rate w* should, in principle, be determined from a model of optimal economic growth. Such a model explicitly considers the trade off between present and future consumption. In practice, Little and Mirrlees suggest a simplified approximate procedure to obtain the value of s.[1/] Roughly speaking, they take s to be the present value of the discounted stream of income that a dollar invested will generate. Realistic values of s with which this method comes up typically lie between 2 and 4. Given surplus labor, i.e., m = C, this implies a shadow wage from 50% to 75% of the actual wage, c.[2/]

9. The above valuation of the social cost of labor corrected the market wage for two effects, viz. the protected urban labor market and the consumption-savings distortion. We will now briefly indicate some other considerations that might affect the social cost of labor.

10. By valuing investment differently than consumption, the above formulation allows for improving the distribution of income and employment as between the current and future generations. However, it takes no explicit account of the intra-generational distribution of income. It is the inoptimality of this latter which is sometimes called the 'employment problem' in less developed countries. We can extend our shadow wage rate to cover the desirable intra-generational

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1/ One could even just ask planners how much they valued a dollar of investment (more generally, free government income) in terms of dollars of increased consumption. The fact that the tax constraint is binding (in the sense that the government would increase taxation had it the power to do so) is evidence that government income is valued more highly at the margin than consumption.

2/ Note that these values for the shadow wage are consistent with those suggested on page 8 of IBRD Operational Policy Memorandum No. 2.21, dated March 31, 1971.

distribution consequences of employing poorer rural persons at higher wages in the organized sector. We should take off from w* a term which indicates the favorable effect of transferring a man from a lower income class to a higher income class. The size of this term, and thus the extent to which industrial employment should optimally be increased in the current period, will depend on the weights we attach to the income accruing to different income groups. To be consistent, we should attach the same weights (captured in the choice of s) for the trade off between income accruing to different generations. Once again, the assumption implicit in trying to improve the intra-generational distribution of income by the use of employment policy is that the government cannot adjust it through traditional fiscal means. This assumption seems realistic in the context of many developing countries.

11. Apart from the output lost in agriculture, another possible cost of transferring a man from agriculture to organized industry is that he will probably have to work harder there. This will be especially true if he was previously underemployed in agriculture. If his extra sweat is to count as a genuine social cost, then we should add on to w* the savings equivalent of the disutility involved in the extra work. But society might decide not to attach any value to the extra effort entailed in industrial employment. One might reasonably argue that since the level of living is so low, quicker economic growth ought to be society's prime concern. This amounts to imposing particular values, not necessarily shared by individuals, in what are considered to be the longer-term interests of the society. Another line of defense in ignoring the value of leisure from society's viewpoint is that individuals themselves may not value it. For peasants who are close to subsistence levels of income, having substantial leisure might be of little enjoyment unless it is accompanied by more income. That is to say, income and leisure are highly complementary

in the range of peasant-worker incomes. Therefore, the leisure foregone in transferring an underemployed man to organized industry where he is fully employed, can be taken as having negligible social cost.

12. We could further elaborate the shadow wage rate to take account of other social costs or benefits of increasing employment in organized industry.

(i) If the efficiency of labor is positively related to the wage, through its effect on improved nutrition and health, then this benefit can be reflected in the shadow wage rate by subtracting an appropriate term. The term will depend upon the elasticity of labor efficiency with respect to the wage rate.

(ii) The opportunity cost of labor is not just the output m permanently sacrificed in agriculture; it should also include the one-time transportation and other relocation costs.

(iii) If the creation of one job in industry results in the migration of more than one person from agriculture[1/], the additional output foregone should be added as a cost.

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1/ This point has been raised in a recent probabilistic model of rural-urban labor migration. According to the model, migration takes place whenever the expected urban wage is higher than rural earnings. The expected urban wage is the going urban wage multiplied by the probability of obtaining an urban job. This probability is assumed to be positively related to the rate of employment in the urban sector. With a given wage differential between the protected industrial labor market and earnings in agriculture, migration will continue until rising unemployment reduces the probability of getting an urban job - just to that level which equates expected wages in the two sectors. This is the equilibrium probability, which corresponds to an associated equilibrium employment rate. Now, the creation of one urban job must result in the migration of more than one person from the rural sector in order to maintain the employment ratio at its equilibrium level.

(iv) The transfer of people from agriculture to industry, and the resulting changes in demand for wage goods versus industrial goods, will alter the terms of trade between agriculture and industry. This will affect the values of c and m. The direction of the effect is ambiguous, though. It depends on the strengths of the income and price elasticities of demand.

In principle, all these effects can be incorporated into our formula for the shadow wage rate. Which of them should actually be incorporated will depend on the particular situation that exists, and our judgement of the importance of each of the various effects in relation to it.

Appraisal, Cost & Evaluation of Projs.

Mr. A. Golan /Ffrench-Mullen August 14, 1972

M. Altaf Hussain

Guide to Economic Evaluation of Irrigation Projects - OECD Working Document CT3324, Paris July 4, 1972

1. You requested that I "review and prepare detailed comments on the attached Guide" shown as subject. My comments follow:

2. The Guide is intended to serve as a uniform methodological frame work for continuous evaluation of Irrigation projects. It would be tested by a small interdisciplinary team of specialists in irrigation areas to achieve the twin purpose of determining its practicability and training the local experts in the selection of projects and in improving their profitability.

The objectives of this guide are laudable.

3. Introduction to the guide states that a) the irrigated area in the Mediterranean countries is large (10 M ha), b) there are socio-political temptations to start new irrigation projects with little regard to their economic merit, c) the relatively easier and less expensive irrigation projects have already been built, and d) the fluctuation in prices of agricultural products and construction costs have reduced their profitability. It concludes that Mediterranean Countries have, therefore, reason to make economic evaluation of their irrigation projects.

The reasons given for justifying the Guide for Mediterranean Countries are not peculiar to those or any other group of countries. They are almost universally applicable although in varying degrees and direction. It would, therefore, be appropriate to promote an extended coverage of such a Guide.

4. It has been stated that the methods used for evaluation differ in different OECD countries which "do not enable a comparison to be made of the profitability of similar investments in different countries."

It would be useful to apply uniform methods of project evaluation for determining merits of projects within a country but one is not sure if uniform evaluation techniques would influence investment decisions in different countries even if such countries be a part of an economic community such as OECD. This is so because alternative investment opportunities in any two countries are seldom identical.

5. The Guide is divided into the following five sections:

I - The Necessary Basic Data for Economic Evaluation (paras 1-90)

II - Determination of Profitability at Farm Level (paras 91-140)

III - Determination of the Profitability of Irrigation from the standpoint of the National Economy (paras 141-211)

IV - Economic Evaluation of Projects during and after their Execution (paras 212-233)

V - Principles of Charging for Water (paras 234 to 282)

Each section explains the methods to be employed for the study and application of its results.

In general, the outline is logical, detailed and useful. At places, however, the paucity of professional staff and expense involved in carrying out the recommended studies appear to have been less than fully appreciated. Also, the expectation that investment decisions would be guided by purely economic indications are overly implied. However, certain assumptions on various parameters have been statistically defined which may influence the judgement of those undertaking the studies. This point has been explained in dealings with each of the above listed sections of the Guide in the following.

6. Section I suggests what basic data should be collected for economic evaluation. It lists description of the area, its location, relief and geology, climate, pedology (soils), water requirements and resources and a detailed description of present agricultural situation in the project area; its size, population, employment, education, farm structure, land tenure mechanization, farm income, existing and propose services for supply of inputs markets and supporting agricultural services.

This list generally corresponds to what we collect for Bank appraisal work. Nevertheless, in matters of detail, there are some serious differences between assumptions that are generally made in the Bank work and those recommended in the Guide are explained below:

a) In Bank appraisal work, Blaney Criddle method is generally accepted for calculating crop water requirements. The Guide definitely regards it exaggerative because according to the Guide, this and other "formulae give fairly high figures which lead to wastage of water." It also recommends that a lower coefficent should be used because under-irrigation of crops does not result in proportionate reduction in yields. This point needs to be sorted out. It may if it is not all true, cause distorted use of water. If land is not scarce, the thin spreading of water might be justifed. But if irrigable land is limited, the use of a lower coefficent to realise cost savings in irrigation structures and system may prove unwise.

b) The Guide states that until about 7th year the area irrigated does not exceed 70% or at the most 80% of the irrigable area. It is Bank practice, and I suppose also experience, that this is not always the case although there may be instances of a poorer progress. In Bank appraisal, 100% of irrigable area is estimated to be irrigated of coarse at a distant year depending on the project and the country.

If the recommendation is accepted as such, the projects in certain countries including those in the Mediterranean, would yield a lower rate of return than was so far accepted for making the Bank loans.

I think the Guide should make the point illustrative rather definitive.

c) Since the "effectively irrigated area will be only 70% of the agricultural area" the Guide recommends that, it should therefore, be provided with canals and pipes on this basis." The Guide recognizes that this would impose an a priory restriction on the future development of farms and prevent them from one day irrigating 100% of their land.

The 70% figure is too low to be universally applicable one, because if this is used in the analysis of irrigation projects, the number of economically viable projects would be drastically reduced. Secondly, if irrigation system is made to serve 70% of the area, it would penalize such farmers as would be able to irrigate 100% of their farms. Further, in the 70% coefficent, it is impossible to locate the 30% areas which would "never" be irrigated.

The determination of irrigable areas in relation to irrigated should be the judgement of the evaluator. The Guide should only warn that it may never 100%.

d) The Guide suggests that educational facilities in the project area should be listed, and degree of literacy by age groups and by sex and occupation recorded.

All details may be difficult to find because national censuses are based on administrative boundaries and seldom coincide with irrigation project boundaries. Some estimates, however, will be useful.

e) The guide rightly emphasises that care is necessary in project evaluation by treating the "with" and "without" situation differently from the "before" and "after" situation. This is in use in the Bank work.

8. The need for ascertaining the general objectives of a project has been rightly stressed. But suggested optimisation calculations would require use of skills and computors as well as time that is not within reach of most underdeveloped countries. Some less stringent tests should be accepted.

9. The treatment of price trends for agricultural products and inputs can be expanded by adding a section as to how to estimate future prices. Although the Guide points out difficulties of forecasting, it does not explain how to forecast. This section can be improved by injecting a part of the guidelines given in Bank OPM 2-21 Part V.

10. Paras 61-65 dealing with Investment Costs are not clear. This subject can be treated more clearly by incorporating information on relevant subjects in para 64 from Bank's OPM 2-21 Part IV (shadow pricing of labor) and in paras 62 & 63 from DM 2.31 (Treatment of Taxes in Cost Estimates) and in para 61 from DM 2.13 (Treatment of FE).

11. Under the heading "Expropriation" (para 64), it is mentioned that the real value of dam, reservoir, canals, roads, etc. is automatically included in the profitability calculations by virtue of the reduction in irrigated area due to implementation of the project. Thus the agricultural production from the larger area without the project is compared with the data obtained from the smaller irrigated area.

To assume this is erroneous in more cases than not. The dams and supply canals usually lie outside the project area. The production foregone in areas flooded by dam lake, occupied by dam structures (including administrative & residual buildings) and supply canals should be separately accounted.

12. In para 81, it is recommended that to allow for bad weather and technical hitches, a margin of 10 to 20% of total duration should be allowed according to individual cases.

The limits of 10 to 20% might cause confusion. I think the Guide should advise that provisions should be made for bad weather and technical hitches that would stop work for certain periods during construction without specifying the percentage which would greatly vary with different situations.

13. The guide recommends (Para 81) that there should be a penalty clause for delay in Construction.

I agree with the recommendation.

14. The Guide suggests that a quarterly plan be drawn up for financial committments. The Bank also follows it.

One can however question if this fine cutting has practical value.

15. Para 85 - It is suggested that since committment charge is lower than interest on the loan, that part of a loan which is held back (about 10%) as guarantee for possible claims, should be so treated; only committment charges be levied.

This, in my view, is not done by us in the Bank but it could be useful particularly in marginal cases.

16. It is recommended that on-farm works should be started before project is built.

This would be useful, but absence of motivating organizations would make it impractical. Efforts in that direction should certainly be made.

17. In the table in Para 103, conversion factor is given for measuring the units of work per year. A working period of 2400 hrs is taken as one unit of work per year irrespective of sex and age.

If the assumption is correctly printed, the table is unnecessary because it assumes equal output of work for persons: from 14 to 65 yrs. of age irrespective of sex. It might be explained why it is so?

18. Para 105 - Gross Value added is defined as "the difference between gross product and expenditure on expenses (including depreciation taxes and wages)."

The words "expenditure on expenses" might read as "production expenses" and the word "including" should read as "excluding."

19. The Guide recommends a period of 30 yrs for economic analysis instead of our common usage of 50 yrs in the Bank.

We consider 50 yrs is more appropriate because a) adaptation periods are long in big irrigation projects and b) expansive infrastructural investments have longer life than even 50 yrs. For these reasons, even discounted values of revenues would help the rate of return.

20. Special surveys (Para 121) have been recommended for determining the family income.

In theory, the suggested surveys would be useful. In practice, the accuracy of data (especially on on-farm consumption, and work units employed) would remain questionable despite the use of refined statistical sample selection techniques.

21. Para 163 - Method of cost allocation to different component of a multipurpose project is inadequately dealt. The suggested procedure is particularly inadequate to help split costs between Power and Irrigation and between Irrigation and Floods. It would be useful to acquaint the readers with the commonly used, Separable Cost and Remaining Benefits method and/or Incremental Costs and Incremental Benefits. Treatment of floods and Irrigation has been confusing the analysists because the two are inseparable. Irrigation without flood protection is impractical. It would be useful to expand on this section.

22. The Guide (Para 170) suggests that residual value among other things, of dams should be accounted in the analysis. If period of analysis is 30 yrs, the residual value of dam costs would have substantial impact on the rate of return. This would be an added reason for considering a longer than 30 yr period for economic analysis.

23. Para 175 - The Guide states this as the time to complete varies for different projects "the best way to compare the project is to take as a base year the year in which the first net work come into service and not when the work begins" and to limit the comparison in time to 30 years operations.

It should be possible to reduce this list without sacrificing its purpose. In any case, information on items such as iii, iv, and ix, will be difficult to gather, doubtful in accuracy and of little if any, practical application.

26. Section V of the Guide deals with the Principles of Charging for Water. It discusses various pricing principles such as socio-political pricing, cost pricing, benefit pricing and marginal (for both community and farmer) pricing. The merits and drawbacks of each system have been narrated. It also brings out problems when faced, and solutions for some of them through necessary adjustments needed in each case. The Guide wisely refrains from proposing one method in preference to other.

The material in this section would fully acquaint the reader with the issues but the final position would have to be taken by the analysist which may vary not from one country to another but from one project to another within one country.

MAHussain:cah

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MAMuneeir:nah

Appraisal cost x prep of Proj.

Messrs. Ballantine, Evans, Fuchs, Knox, Sadove, Weiner
W. C. Baum

July 31, 1972

Addenda to information requested by Mr. McNamara on Project Costs and Completion Time for period July 1, 1968 through March 31, 1972

This is in reference to Mr. Ripman's memorandum to you of April 18, 1972, covering reporting on project costs and completion time through March 31, 1972. Mr. Ripman has been requested by Mr. McNamara to supplement this information with data on projects completed between April 1, 1972, and June 30, 1972. The four-year analysis so developed will be brought up-to-date from time to time in the future to allow periodic comparisons.

Following the same format as requested in the April memorandum, we will need for the fourth quarter of FY 72:

a) a table showing completion time variances;

b) a table showing project cost variances (tables for 3 3/4-year period 7/1/68 - 3/31/72 are attached in Annex I); and

c) a narrative on each project with overrun or underrun in excess of 15%. To ensure consistency in reporting, there are attached sample lists of the reasons for variances that were submitted by all departments earlier this year (Annex I).

In an effort to provide some information necessary for this supplement, the Controller's office has compiled a list of the loans and the credit fully disbursed for the last quarter of Fiscal Year 1972, March 31, 1972, through June 30, 1972 (Annex II).

Mrs. Haddad will be responsible for assembling this additional information. Those of your staff assigned to this task should refer their questions to Mrs. Haddad on Ext. 5263. The information should be sent to Mr. Ripman's office by Wednesday, August 9.

Attachments

WCBaum/YKovani/PHaddad:em

Messrs. Ballantine, Evans, Poche, Knox,
Sadove, Weiner
W. C. Baum

July 31, 1972

Addenda to information requested by Mr. McNamara on
Project Costs and Completion Time for period July 1, 1968
through March 31, 1972

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This is in reference to Mr. Ripman's memorandum to you of April 18, 1972, covering reporting on project costs and completion time through March 31, 1972. Mr. Ripman has been requested by Mr. McNamara to supplement this information with data on projects completed between April 1, 1972, and June 30, 1972. The four-year analysis so developed will be brought up-to-date from time to time in the future to allow periodic comparisons.

Following the same format as requested in the April memorandum, we will need for the fourth quarter of FY 72:

a) a table showing completion time variances;

b) a table showing project cost variances (tables for 3 3/4-year period 7/1/68 - 3/31/72 are attached in Annex I); and

c) a narrative on each project with overrun or underrun in excess of 15%. To ensure consistency in reporting, there are attached sample lists of the reasons for variances that were submitted by all departments earlier this year (Annex I).

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Attachments

WCBaum:mcovarrubias:PHaddad:em

AUG 1 4 20 PM 1972

Appraisal & Preparation of Projects

Professor G. Cochrane and Dr. R. Noronha July 31, 1972

N. McIvor, G. F. Darnell and R. E. Rowe

Draft Sociological Research Report

1. Thank you for sending your draft July report to Mr. L. J. C. Evans for comment. Mr. Evans has asked us to send you our comments and we also are grateful to you for the opportunity to read this very interesting interim report.

2. We believe that sociologists have an important role to play in the Bank, particularly in our project appraisal work, and that their role will become more important as we get into more diverse and complicated projects in the field of agriculture. We, therefore, endorse your suggestion on page 7 to improve mission techniques based on the field work experience of sociologists. As you know, in the Agriculture Projects Department (AGP) we have already used sociologists on appraisal missions, albeit perhaps, in the light of your comments on page 8, not always the right sociologists for the job. In view of those comments, we would agree with your suggestion on the same page that urgent consideration be given to developing a cadre of consultants from a wide number of countries.

3. We also see the importance, and agree with, your suggestion on page 6 that, in dealing with projects containing a substantial human element, we should begin by assuming that local action will be special and unique rather than rational.

4. While agreeing with the main suggestions in your paper, we have some comments to make on certain more minor aspects and we hope that these comments will be of some help to you.

5. On page 2 you refer to the Bank's "two cardinal principles: that lending be conducted in accordance with prudent financial principles; and that loans be repaid promptly." While these are certainly two of the Bank's principles, they are by no means exclusive, nor are they possibly the most important. The economic justification of the project is also a cardinal principle and before lending we have to demonstrate an adequate return to the economy, realizing that the measurement of an adequate return is subject to the economists' inexact and limited standards of measurement. Another cardinal principle is the priority of the project - whether the project under consideration, or some other project, should be undertaken at this time or whether the project should be postponed for a specific time or indefinitely. Other principles are also considered, including more and more such things as employment generation and income distribution. To some extent, therefore, the "social development goals" are already considered in project appraisal, but it would be true to say that we would not claim to be well qualified as judges of some of these goals, nor are we always entitled to determine such goals for the borrowing country.

6. On page 4 you refer to the great need "to safeguard the Bank's reputation in a growing number of impoverished village centers of the world", and you ask what the Bank's reputation is among those by-passed by development. We feel that we should realize that the Bank plays a limited role in the world's economic development. It would not be good for the Bank or for those working in the Bank to encourage an over-inflated idea of our importance or power. Many people in village centers of the world have never heard of the Bank and never will. Nor perhaps need they. To put into perspective our work in agriculture throughout the world, let us quote from page 58 of our recently published Agriculture Sector Working Paper: " ..... the World Bank's contribution to overall agricultural investment in the developing countries at present is probably of the order of one to two percent."

7. Pages 5 and 6 refer to a Bank mission to Basutoland, Bechuanaland and Swaziland in 1960. The Bank's policies and methods are developing rapidly and we wonder why you should review a Bank report already 12 years old. In this same paragraph, you ask why "a crucial problem is without any advice, analysis, or recommendation, to be left to the local administration." It can happen that crucial problems have to be left to the local administration, who are the only people able to handle them in practice.

8. On page 7 you ask whether the problem of civic participation in Bank projects should be specifically recognized. We are not quite clear what you have in mind here, but in many projects there is partieipation which could be described as civic - for example, farmer representation on project boards and committees and similar arrangements.

9. Your paper refers to two specific projects - one in Dahomey and one in Colombia - in terms which seem to indicate that somewhere along the line you havebbeen given a misleading impression. In Dahomey you suggest that the Hinvi oilpalm scheme has failed in its original conception because of failure to take into account key social factors. What has failed is a small component of the overall project, that is the food crop component, and we do not see that this can be attributed to a misjudgment of social conditions. The food crop component failed because it was technically unsound and did not provide its participants with adequate cash returns. Of all areas of the developing world, forest regions of West Africa possibly best demonstrate the fact that it takes a very little time for traditional taboos and constraints to be overcome by financial considerations.

10. Of the settlement projectiin Colombia, you suggest that it rests on shaky ground. The people most closely concerned in the AGP with this project do not believe that it rests on shaky ground; if it does the problems are not social. They feel that of all our projects, this may

have the least sociological problems. Its participants have made the decision to uproot themselves and make their own way to the settlement area - in many cases hundreds of kilometers from their original homes. Thousands have already done so. There seems to be some misunderstanding between us about this project.

11. We are in full agreement with you that in projects dealing with many thousands of small farmers, the basic problem is a social one. However, many factors comprise the social problems, including such things as the financial return to the participant, whether he has a good water supply, whether his children can go to school, and whether there is a good health service. These are all social matters and we try to take them into account in preparation and appraisal of projects. Where we could fall down easily would be in the area of anthropology or social customs which our missions may not understand. In fact, we believe we have few projects in those areas of the world which we understand Professor Cochrane knows best. We do not believe many of our project participants are of the type who, if they see a butterfly before the dew has risen have to go into seclusion for a month. (In passing, we might observe that this sort of reaction could be envied by some of our hard-pressed project appraisal staff who would regard it as an advance to a higher form of civilization if they could go into seclusion when they felt that the circumstances warranted it). One of our projects is in New Guinea where anthropological issues are important. Yet, this is one of our better settlement projects and here it is perhaps surprising how people who, two or three years ago, were living under very primitive conditions, now participate in a monetized economy. No doubt, these people have had to compromise. If the rewards are big enough, a compromise will be achieved; if too small, as in Dahomey, the project will fail.

12. Our comments above are mainly on minor aspects of your paper as we have mentioned already. We hope they may be helpful. On the major aspects, we have no doubts of the value that a more expert approach to the sociological elements in our projects could be to the Bank and its Borrowers. Thank you again for letting us see your paper.

cc: Mr. Evans
Mr. Wapenhans
Mr. Adler

NMcIvor:rs

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cc: Mr. Evans
Mr. Wapenhans
Mr. Adler

NMeAkor:rs

Appraisal Preparation & Cost of Projects
Yellow.

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

# OFFICE MEMORANDUM

TO: Mr. Bernard Chadenet

DATE: July 26, 1972

FROM: A. F. Geolot

SUBJECT: Suggested Revision to D.M. 2.10
Calculation of Contingency Allowances
in Project Cost Estimates

1. I believe Mr. Thalwitz has already spoken to you about the desirability of revising D.M. 2.10, primarily in relation to the date of the "base line cost".

2. In paragraph 4 of the original memorandum it is suggested that base line costs should be those costs which represent our best estimate at the time of approximately the yellow cover stage of the appraisal report. Instead, we recommend that the base line cost to be quoted in the appraisal report be the cost estimate as of the expected time of receipt of bid. Consultant's and appraisal mission's estimates would have to be adjusted to include estimates of price changes between the date of the original estimate and the expected time of receipt of bids; normal quantity and price contingencies would apply for the period of execution.

3. I attach an amended draft of the D.M. 2.10 for your consideration.

AFGeolot:SCHardy:dfw

cc: Messrs. Baum, Ripman, Engelmann, Lithgow, Rovani, Thalwitz, Jaycox, Geli, all Division Chiefs - T.P.D.

# SUGGESTED REVISION

# TO

# DIRECTORS MEMORANDUM NO.2.10

Transportation Projects Department
July 20, 1972.

part #2 In cases of large and complex projects, or where there has been little record of recent bidding in the country concerned, it is prudent to secure the services of specialized cost estimating firms and/or the advice of contractors and manufacturers to check and improve upon the consultant's estimates. Estimates prepared on the basis of forecast quantities would accurately represent project costs provided the project were executed exactly as planned, excluding any physical and price changes during contract execution. However, experience shows that it is necessary to expect the unexpected in such "quantity estimates", and to make reasonable provision for it. The correct forecast of the lowest evaluated bid is the consultant's original quantity estimate, as at a certain point in time, plus a provision for contingencies (mainly price) which might occur during the interval up to receipt of bids. The correct forecast of final project cost is the lowest evaluated bid plus a provision for contingencies, both physical and price, which might occur during execution.

3. The amount of the contingency provision will vary with .....

PROJECTS DEPARTMENTS

DIRECTOR'S MEMORANDUM NO. 2.10

# CALCULATION OF CONTINGENCY ALLOWANCES IN PROJECT COST ESTIMATES

## Introduction

1. Realistic cost estimates are an essential part of project appraisals. They are used to determine whether or not projects are economically justified and to determine the level of financing required in both foreign and local currencies, including the amount of the Bank loan. Since they are an important part of the cost estimate, contingency allowances should be shown in cost tables as separate items and their amounts should be explained in the text. The purpose of this memorandum is to provide guidance for the computation of this cost element and for its presentation and explanation in appraisal reports.

2. A "contingency" is an adverse event with a probability of occurring sufficiently high to justify making explicit provision to cover its cost if it should occur. Contingency allowances reflect the residual uncertainty surrounding the physical and price aspects of any project that remains after it has been prepared with the degree of thoroughness and detail which professional standards would consider appropriate to the project in question. ~~In the cases of large and "monolithic" projects (e.g. El Ghoson) it is imprudent to assume the services of specialized cost estimating firms under the advice of consultants and manufacturers to check and improve the consultant's estimates. Estimates prepared on these bases would represent a "best estimate" of project costs if the project were executed exactly as planned, excluding any price changes. However, experience shows that it is necessary to expect the unexpected and to make reasonable provision for it.~~ The amount of such provision will vary with the nature of the project and will vary among the different components of a project. In general, contingency allowances should not be so large that they would cover any conceivable cost overrun, since the probability of this occurring is small. Such excessive prudence would reduce pressure for careful cost estimating, relax pressure for tight cost control during project execution, and unduly depress rate-of-return estimates. For these reasons, the size of contingency allowances must be built up and justified project by project. When physical contingencies are large, the question must be asked whether further design engineering prior to the loan would be desirable in order to reduce them.

4. For most projects, contingencies will be shown in the cost tables. Exceptions are agricultural credit and livestock projects, and some "time slice" (e.g. some railway and public utility projects), because

5. Contingency allowances in general reflect the consultant's or the Bank's judgement on cost increases likely to occur after preparation of the original cost estimates (which may be some time before bids are actually called). The contingency allowances should therefore be added to the original estimates in tranches to reflect the forecasts of (i) the lowest evaluated bid (given a certain date for receipt of bids), and (ii) the final project cost. An estimate of the lowest evaluated bid should be regarded as the base line cost of the project (the subtotal of the example shown in the Annex). The contingency allowances made in the appraisal report should represent the amount of subsequent cost increases attributable to physical factors and to price changes which it is reasonable to expect during the period of contract execution (with possible extension of time included). Because they represent additions to base line costs, contingency allowances when expressed as percentages should represent a percentage of base line cost (not of base line cost plus contingencies)..

part #6

The text accompanying the cost table should explain how the contingency allowances were arrived at, the time interval and allowance made between the original estimates and the expected date of bidding, and the major contingencies it is thought the project faces during execution.

part #7

The building up of contingency allowances for each project item requires the identification and quantification of the types of events which might increase costs between the time of the original estimate and the time of receipt of bids, then through to project completion. In carrying out this review, one should avoid double-counting by eliminating from the base figures any contingency allowances (such as notional increased quantities) that may already have been made by the borrower or his consultants.

their loan amounts and financing plans do not depend upon cost estimates inclusive of contingencies in the same way as other projects; changes in unit costs for this type of project primarily affect the number of sub-projects which can be executed with the funds made available rather than the justification of the project itself. The contingencies involved in this special class of projects will be shown and discussed (sometimes through a sensitivity analysis -- see D.M. 2.7) in the part of the appraisal report dealing with the economic justification.

5 ~~4.~~ ~~Since the contingency allowances reflect the Bank's judgment on cost increases likely to occur after a certain point in time, they should be added to the costs of a project as estimated at the time the project is presented to management (i.e. at approximately the "yellow cover" stage). These estimates, without contingencies, constitute the base-line costs of the project. The contingency allowances will show the amount of subsequent cost increases attributable to physical factors and to price changes which it is reasonable to expect. Because they represent additions to base-line costs, contingency allowances, when expressed as percentages, should represent a percentage of base-line costs (not of base-line costs plus the contingencies).~~

6 ~~5.~~ In estimating contingencies, it is not possible to put precise values on events which, by their nature, cannot be accurately measured in advance. But a reasonable effort must be made to attain order-of-magnitude figures that satisfy the requirements of sound investment decision-making and of prudent financial planning. Periodic and comprehensive comparisons of actual costs of completed projects with their estimated costs will provide guidance about proper contingency allowances. Separate estimates should be made of physical and price contingencies; these should be shown separately in the cost tables as illustrated in the Annex. ~~The text accompanying the cost table should explain how the contingency allowances were arrived at and mention the major contingencies which it is thought the project faces.~~

Physical Contingencies

7 ~~6.~~ The most likely causes of cost overruns attributable to physical factors will be known to experienced project analysts in each sector. An illustrative list of such causes is given in the next paragraph. The task of preparing estimates for individual projects requires separate review of the major items of the project. ~~The building up of contingency allowances in each project item requires identifying the types of events that may occur that would increase costs above the "best estimate" level and then, drawing on experience, fixing a reasonable allowance to cover each such contingency. In carrying through this review, one should avoid double-counting by eliminating from the base figures any contingency allowances that may already have been made by the borrower or his consultants.~~

8 7. The physical contingencies to which projects are exposed will depend on the type of project.

A. In the case of projects that include large civil engineering works, allowances would be higher than for projects that cover only the supply and erection of equipment. In computing physical contingencies for civil works, some of the main factors that give rise to uncertainty are:

i. the area and type of terrain where the project is to be constructed;

ii. the amount of field work, in particular the amount of sub-surface exploration that has been completed, the status of engineering design work, and the consultant's knowledge of local conditions and of material and labor costs;

iii. unforeseen technical difficulties that may be encountered during construction. This is especially relevant if the project includes sub-surface work.

iv. the basis of the cost estimates, i.e. the extent to which they are based on reliable cost data for similar work under construction or recently completed in the area;

v. the risk of underestimating the amount of work required - particularly when "unit price" contracts (rather than lump-sum contracts) are to be used and cost estimates are based on design quantities which may be exceeded;

vi. the risk of changes in design during construction, and the addition of unforeseen extras;

vii. unusually adverse weather that may delay work abnormally, interrupt deliveries to the site, or wash out partially completed work.

B. In computing physical contingencies for equipment, some of the main factors that give rise to uncertainty are:

i. the precision of our knowledge about the quantity of equipment needed (e.g., for highway maintenance, telecommunications and railway signaling projects);

ii. the quantity of spare parts to be ordered;

iii. the extent to which detailed specifications of plant and equipment have already been set;

iv. the extent to which equipment is to be purchased "off the shelf" or on special order.

C. One of the most frequent causes of cost overruns, common to projects in many sectors, is under-estimation of construction time. If a "tight" construction period is assumed, there will frequently be justification for covering a likely time overrun in the contingency allowance.

ADD 9 8. Physical contingency allowances should be estimated separately for each major category of cost, and there is no reason to assume that they will affect local and foreign costs in equal proportions. Consequently, they should be allocated, insofar as possible, between local and foreign costs.

Price Contingencies

10 8. There are five sources of price increases whose possible presence and amount should be estimated:

A. Domestic inflation, as indicated by recent trends and their estimated force during the project's construction period. This is important not only for estimating the cost of domestic resources but also for selecting future exchange rates for linking domestic and foreign costs (see para. 10 below). The probable amount of domestic inflation during the construction period should be fixed in consultation with the Area Department.

B. Inflation in countries of likely foreign suppliers: The expected trend of prices in leading suppliers' countries should form the basis of the price allowance for goods and services expected to be procured abroad. A judgment should be made as to whether or not price trends in major supplying industries can be expected to follow general inflationary trends.

C. Sectoral price trends: Judgments must be made as to whether domestic or foreign prices for particular types of work or equipment are likely to parallel overall inflationary trends. For example, if the construction industry is either over-extended or depressed, price trends in that industry may exceed or lag behind expected movements in general prices. Similarly, in recent years technological change has been reducing the prices of much telecommunications equipment despite inflation in the main suppliers' countries.

D. Project impact on local prices: A large project may exert a strong upward pull on the prices of local resources (mainly land, labor and raw materials). Any

Add to #8C Such overrun can be covered by an appropriate extension of the price contingency allowance (see below).

part #10 A "risk allowance" contingency, if used, should be included as a separate item to be included in the "Estimated Bid Price" item in the cost table; its presence, amount and potential cancellation should be explained in the text, and reflected in the loan/credit documents.

expected initial impact of this kind belongs in the base-line cost estimates, not in the price-contingency item; but if there is good reason to expect subsequent upward pressure on local prices during the construction period (causing them to increase faster than an allowance for general inflation would reflect) then this source of cost increase should be taken into account.

E. "Unusual risk:" Experience shows that in some parts of the world, and under some political and economic conditions, foreign contractors are willing to tender for work only at prices that contain an extra premium for the unusual difficulties and uncertainties they consider present. This makes it difficult to predict with confidence what their bids will be. Consequently when the Bank feels such conditions are present in a degree that makes the prediction of tenders quite uncertain, a special allowance for "risk" may be included as one of the contingencies. This is the only one of the five price contingencies that does not apply to expected price trends after bids are received, when the amount of this factor immediately becomes known. Any portion of the "risk allowance" not needed in the light of tenders received should be immediately cancelled, i.e. they should not be re-allocated to the general contingency allowance. ~~A "risk allowance" contingency, if used, should be included in the "Price Contingency" item in the cost table; its presence, amount, and potential cancellation should be explained in the text.~~

11 ~~10~~. Since future price increases can affect costs only until work is completed, the overall contingency allowance should be built up by applying appropriate annual price increase factors to the unexpended costs at each year-end.1/ The price allowances should be applied to the unexpended balance of the base-line costs plus the physical contingencies. The sum of the price contingencies thus calculated should then be expressed as a percentage of the project's total estimated cost as of the base date (i.e. exclusive of physical contingencies).

12 ~~11~~. The existence of severe inflation (i.e. significantly higher than the world average) in a country complicates the handling of price contingencies and changes the meaning of the local-currency figures used in cost tables. Ordinarily, the cost tables represent the actual amounts of local and foreign currency expenditures which the project is expected to incur; they thus serve as the basis for estimating the amount of local and foreign currencies required. Where mild inflation exists, this is reflected in the contingency estimate for domestic-cost price increases. Since the latter are roughly in line with foreign cost increases, no

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1/ For example, the proper price contingency allowance on a project to be built with expenditures spread equally over 3 years, and under inflation of 10% per year, would be about 16% (not 30%) of its basic cost.

serious problem of devaluation is likely to be generated during the construction period.

13 ~~12.~~ When domestic inflation is severe, the relationship between domestic and foreign costs (determined by the exchange rate then in effect) will rapidly become obsolete. Sooner or later such imbalances must be corrected by devaluation. Under such conditions (e.g. Brazil, Chile, and Colombia in recent years), governments have often worked out frequent, automatic devaluations in order to maintain the external purchasing power of their currency. In such cases, it is Bank practice to construct the base-line estimate of local costs in the usual way, i.e. making the estimate as of a given date and then converting these base-line local costs into dollars at the official rate as of the estimate date. Future price changes are then calculated in terms of dollars only; this means that the "price contingency" for both foreign and local costs is adjusted by the amount of the expected increase in world prices, i.e. in the dollar estimate of project costs (the faster increase in domestic prices is ignored because it will be automatically reflected in the changing exchange rate). Under this special circumstance, the local currency total in the cost table does not represent the absolute amount of local currency that will be required. To determine the latter, the dollar estimate of local currency costs is the relevant one to use. The local currency requirements can be determined by converting the dollar estimate into local currency at the exchange rates prevailing, or expected to prevail, as and when expenditures are incurred.

14 ~~13.~~ A special problem arises when the situation is intermediate between those described in paragraphs 11 and 12. The intermediate situation is characterized by domestic inflation greater than world inflation that is not compensated by full and predictable devaluation. This means that it is no longer possible to derive a confident estimate of nominal domestic costs (and hence of domestic financing requirements or rates of return) since there is no firm basis for estimating the amount and timing of exchange rate adjustments. In such circumstances the overall price-contingency figure should be built up from separate "best estimate" projections for foreign and domestic costs; these price-contingency estimates should then be translated into common currencies using the official exchange rate in effect at the time of report preparation. Since the special circumstances of this case by definition make the official exchange rate of doubtful relevance, the text should call attention to this problem and its effect on the cost estimates and on the financial and economic analyses. Relevant sections of the report should include a sensitivity analysis that shows how the use of various possible exchange-rate adjustments (amount and timing) would affect the project's local-currency requirements and its financial and economic results.

B. Chadenet

B. Chadenet
Deputy Director, Projects

Attachment - Annex entitled Summary of Project Costs

January 22, 1971

ANNEX

(Adapted From: Appraisal of the Sixth Highway Construction Project, PTR-44a, April 28, 1970)

## SUMMARY OF PROJECT COSTS

~~(December 1969 Prices)~~

| | Colombian Pesos (Million) | | | US$ Equivalent (Million) | | |
|---|---|---|---|---|---|---|
| | Local | Foreign | Total | Local | Foreign | Total |
| CONSTRUCTION, RECONSTRUCTION AND PAVING | | | | | | |
| a. Barranquilla Bridge | 61.0 | 86.0 | 147.0 | 3.4 | 4.8 | 8.2 |
| b. El Pailon-Buenaventura Road | 20.0 | 20.0 | 40.0 | 1.1 | 1.1 | 2.2 |
| c. Paving Program | 353.8 | 353.8 | 707.6 | 19.7 | 19.6 | 39.3 |
| Sub-total (Estimated Bid Price) | 434.8 | 459.8 | 894.6 | 24.2 | 25.5 | 49.7 |
| d. Contingencies | | | | | | |
| Physical (10%). | 45.0 | 47.0 | 92.0 | 2.5 | 2.6 | 5.1 |
| Price (8%) | 36.0 | 37.8 | 73.8 | 2.0 | 2.1 | 4.1 |
| Est. Final ~~Total~~ Cost of Project | 515.8 | 544.6 | 1060.4 | 28.7 | 30.2 | 58.9 |

Appraisal + Preparation of Projects

Mr. Hans A. Adler

July 18, 1972

H. G. van der Tak

Economic Analysis of Projects with Foreign Participation

During our discussions of the Dez Project, some weeks ago, I promised you a note on the treatment of participation by foreigners in the costs and benefits of a project and its effect on the economic return to the country. I now attach a paper, largely prepared by Mr. Squire, dealing with this subject. We are looking forward to your comments.

Attachment

HGvanderTak:lfb

cc: Messrs. Chadenet/Baum
Mr. Evans
Messrs. Golan/Otten
Mr. Fuchs
Mr. Knox
Messrs. Rovani/Raizen
Mr. Squire
Mr. Henderson

Economic analysis of projects with foreign participation

1. In this note we consider the following question: How should we value the costs and benefits paid or received by foreign participants in projects financed by Bank loans? We may divide the question into two parts: firstly, what value ought to be placed on income accruing to foreigners; and secondly, given this value, what adjustments have to be made to the flows of project benefits and costs measured in the usual way (i.e. ignoring the nationality of participants). To facilitate exposition we will initially assume that the value put on foreign income (both consumption and saving) is zero[1] and consider the second part of the question first.

Benefits

2. If we ignore the nationality of the participants, then the net social benefit of a project in any year is the same as the net private benefit in that year suitably adjusted for divergences between shadow and market prices. For example, the net benefit in any one year may be $100 when measured at market prices but, say, $150 when measured at shadow prices if, for example, the shadow wage-rate is zero. If we now assume that this project is foreign-owned and that the value put on the income of foreigners is zero, should we (i) deduct $100 from benefits measured in the usual way? (ii) deduct $100 revalued in some way at shadow prices? or (iii) deduct $150? We can immediately dismiss (iii) because the $50 market wage-bill is, in this example, a benefit to the economy regardless of the nationality of the employer: this part of the social profit does not accrue to the foreign owner, but to the national economy. The correct choice between (i) and (ii) is clear if we regard the income of the foreign owner as a necessary cost incurred by the project. It then follows that, just as we revalued labor costs at shadow prices, we ought to revalue this cost of benefits accruing to foreign owners at some shadow price.[2]

3. For the present, we continue to assume that the value put on foreign income is zero, so that we can find the cost of this income by breaking down the foreigner's expenditure[3] into its constituent parts and revaluing them at their appropriate shadow prices. This is, of course, what we do with all project costs and may, for example, involve the use of a shadow exchange rate to express foreign and local expenditure in the same terms. The resulting sum is then deducted from total benefits. For simplicity let us assume that the cost of the foreigner's income at market and shadow prices is the same, so that we simply have to deduct all income net of taxes accruing to foreigners from the project's social benefits.[4]

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1/ This assumption is reconsidered in para. 13 pp.

2/ This is exactly analogous to the Little-Mirrlees treatment of private profits accruing to the rich.

3/ Expenditure is used in a broad sense here and includes the purchase of consumption and investment goods and the repatriation of funds.

4/ With this assumption, adjustments (i) and (ii) in Para. 2 become the same; it is relaxed in para. 13 pp.

4. This approach can, of course, be easily extended and adapted to a wide range of circumstances. Foreigners may be part owners and share proportionately in the profits. They may earn fees for management or technical services, payment for patent rights, or receive interest on loans made for the project. The principle remains the same though. All incomes (after taxes) accruing to foreigners should be revalued at appropriate shadow rates. As long as we continue to assume that the value of income of foreigners is zero, and that the cost of foreigners' income at market and shadow prices is the same, any after tax benefits from the project that accrue to foreigners should be deducted in full from its social benefits.

Costs

5. Does foreign participation in the project require adjustments on the cost side of the project over and above the usual corrections for divergences between social and private costs? Let us consider first a foreign labor input, say, providing managerial or technical skills required for the project. What is the cost to the country of employing this foreign labor? Let us assume that in the original analysis (i.e. where nationality is ignored) this labor was attributed a shadow wage reflecting the foregone marginal product in the next best alternative employment, even though the market wage may have been more. This is an overstatement of the true cost of this labor to the economy for either of the two following (mutually-exclusive) reasons:

(i) If this labor had not been available for alternative employment in the host country, the foregone marginal product is zero; costs should be reduced by the shadow wage.

(ii) If the labor had been available for alternative employment, the foregone marginal product is positive, but the economy now saves the income (assumed of zero value to the host country) which would have accrued to the foreigner in that employment. The net opportunity cost to the economy depends on the relation between the wage[1] paid to the foreigner in alternative employment and his marginal product in that employment.[2] If these are the same, the net opportunity cost is again zero, and the cost of the project should be reduced by the shadow wage (of foreign labor). If the market wage exceeds the marginal product, the net opportunity cost is negative and costs should be reduced by the wage paid to foreigners in alternative employment.

6. We can now see what the net effect is of the correction for foreign labor on both the benefit and cost side. (i) If foreign labor would not otherwise be available, deduct foreign labor income (after tax) from the

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1/ We are still assuming that the cost of the foreigner's expenditure out of his wage net of taxes is the same at market and shadow prices.

2/ The disutility of the entrepreneur's own labor is not a cost to the host country but the Bank does not treat this as a cost in the usual type of analysis anyway and so there is no adjustment necessary here.

benefit side, and the (foreign labor) SWR from the cost side. In other words, foreign labor participation, in this case, reduces the net benefits to the economy if his actual (net) labor income exceeds his contribution to output (SWR). (ii) If foreign labor would have been available to the economy anyway, the outcome depends on their contribution to output on the project and in alternative employment and on their relative net payment on the project and elsewhere. If the contribution to output is the same, as reflected in the SWR in the analysis which ignores nationality, the decisive factor is relative pay. If net pay for foreigners on the project is more (less) than in alternative employment, the economy loses (gains) to that extent. The correct adjustment on both the cost and benefit side is to deduct actual (net) payments to foreigners, in alternative employment and on the project respectively. The adjustment is neutral, i.e. results in neither gain nor loss to the economy, if net pay is the same, quite independent of the fact whether or not net pay exceeds the SWR.

7. The treatment of capital contributions by foreigners, as equity or loan to the project, is analogous to that of foreign labor. (i) In general, the opportunity cost of foreign capital is zero if the capital would not otherwise have been invested in the host country. Such capital contributions should be deducted from the cost side, and corresponding net payments to foreigners should be deducted from the benefit side. Foreign capital participation, in this case, results in a gain (loss) to the economy depending on whether the net "interest" payments to foreigners are less (more) than the shadow interest rate (ARI). (ii) If the foreign capital contribution would have been invested in the country anyway, one has again to look at the net opportunity cost of using it in the project rather than elsewhere. Assuming that efficient use is made of capital in both cases, decisive is again the relative net payment to foreign capital on the project and elsewhere.1/

An example

8. Assume that the net social profit per annum (NSP) of a project is 100 when measured in domestic currency and when the nationality of participants is ignored. Let the annual foreign labor input of this project have the following characteristics:

| | |
|---|---|
| Foreign labor input | = 10 man-years |
| SWR (i.e. foregone marginal product in alternative employment) | = 3 per man-year |
| ∴ Foreign labor cost (X) | = 30 |
| Market wage net of tax | = 4 per man-year |
| ∴ Foreign income net of tax (Y) | = 40 |
| Market wage net of tax in alternative employment | = 3.6 per man-year |
| ∴ Foregone foreign income net of tax (Z) | = 36 |

1/ These comments also apply to capital borrowed by the foreigner from domestic sources except in the following case: If the foreigner would not have borrowed this capital for an alternative project, it would have been available for investment by a domestic borrower, in which case the opportunity cost has been correctly assessed in the original analysis and no adjustment on the cost side is necessary.

9. If no value is attributed to foreign income we must deduct Y, foreign income net of tax, from NSP. That completes the adjustment on the benefit side. The adjustment on the cost side depends on the alternative employment possibilities of the foreign labor. (i) If, contrary to the SWR assumption, this labor is not available for alternative employment in the country, we must add X to NSP because the foreign labor cost (X) is no longer a cost to the country. Thus, the net adjustment in this case is to reduce NSP by Y - X = 40 - 30 = 10. Note that if in the original analysis the SWR of foreign labor equals the market wage net of taxes, the net adjustment is zero.[1/] (ii) If, however, the labor is available for employment elsewhere in the country, the adjustment on the cost side comprises adding Z, foregone foreign income net of tax, to NSP because, although X is in this case indeed a cost, Z is now saved. The net adjustment involves therefore reducing NSP by Y - Z = 40 - 36 = 4. The net adjustment will be zero if the market wages net of taxes in the project and in alternative employment are the same.[1/] It does not matter for this adjustment whether or not the foreign labor is available for alternative employment, if the foregone marginal product (SWR) and the foregone market wage net of tax in alternative employment are the same.

10. We can use the same example to illustrate the adjustments for foreign-owned capital. The analysis and conclusions are identical: we need only change the terminology. Thus, NSP becomes the discounted net social profit, X is now the opportunity cost of the foreign-owned capital as presented in the original analysis and Y and Z become the discounted income accruing to foreigners in this project and the next best alternative project respectively.

Cost of Foreign Income at Shadow Prices

11. What difference does it make to the analysis if we remove the assumption that the cost of foreign income at market and shadow prices is the same? The only difference is that foreign income must now be broken down into its constituent parts (e.g. purchase of domestic goods, foreign goods, and expatriation of funds) and each part must be revalued at its appropriate shadow price. The resulting sum must then be deducted from total benefits. In relevant cases, as discussed above, we must, of course, repeat this process for the foregone foreign income net of tax in alternative employment. The principle of the analysis is not altered. Note, however, that the adjustment now depends not just on ex-tax foreign income differences on the project and elsewhere, but also on possible differences in expenditure patterns.

12. To illustrate with our previous example, assume now that all foreign income (both Y and Z) is spent entirely on duty-free imports and that the

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1/ Y - X and Y - Z could also be negative. For example, if the SWR exceeds the market wage net of tax Y - X becomes negative.

shadow exchange-rate is 1.5. Starting with the same values as before, Y (foreign income net of tax) now increases to 60 and Z (foregone foreign income net of tax in alternative employment) to 54. If the foreign labor is not available for alternative employment, the reduction in NSP is still (symbolically) Y - X but (numerically) this now equals 60 - 30 = 30. It has increased because foreign labor is "consuming" so much scarce foreign exchange. If the labor were available for alternative employment, then, as before, the reduction in SNP is expressed symbolically as Y - Z, which now equals 60 - 54 = 6. The increase in this case is very small because, although Y has increased, the saving on the foregone foreign income (Z) has also increased. Once again, the analysis of foreign-owned capital is analogous.

Value of Foreign Reinvestment

13. Thus far, we have attached a zero value to all foreign income. We will now assume that the government puts a zero value on all foreign income unless it is reinvested in the host country thereby contributing to domestic consumption or savings.[1/] What value ought the government place on foreign reinvestment? This depends on the effects of the investment. In general, a unit of foreign investment will (i) increase the total wage-bill because in order to attract labor from the subsistence sector a wage greater than average consumption in that sector has to be paid; (ii) produce profits for the foreign entrepreneur; and (iii) provide tax revenue for the government. Consider the extreme cases. If (i) and (iii) are zero then the only beneficiary is the foreigner so the value of foreign reinvestment is zero. If, however, (ii) is zero then the entire benefit accrues to the domestic wage-earners and the government (the actual distribution between domestic consumption and savings in the form of government taxation is immaterial if both are valued equally by the government). Foreign investment is now as valuable as investment undertaken by the government.

14. The actual value of foreign investment in the range of zero to unity, in terms of the value of government investment, will depend on (i) the tax-rate on profits; (ii) the effect of investment on the total wage-bill; and (iii) the proportion of profits reinvested by foreigners. (The relationship between these variables is analyzed in the Annex.) If the actual value of foreign reinvestment in terms of government investment is y, then the cost of foreign income is (1 - ry) where r is the foreigner's propensity to reinvest in the economy. Thus, wherever we encountered foreign income in the previous analysis we must now weight it by (1 - ry). To illustrate, in our previous example (para. 12), we had Y (foreign income net of tax) = 60. If 12 were spent on investment, r = 0.2. If we assume y to be 0.5 (see annex) then Y now equals 54. As before, we may have to make a similar adjustment to Z (the foregone foreign income in alternative employment). With regard to income from capital investments, the principle remains the same but we might expect the propensity to reinvest out of profits to be higher than that out of wages.

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1/ In other words, consumption by foreigners as well as repatriated income continues to be valued at zero.

Conclusion

15. In practice, it may be sufficient to make some fairly crude adjustment for foreign participation on the grounds that a more sophisticated approach would be costly in terms of time and would not improve the analysis significantly. For example, if we believe that foreign labor and capital would not have been employed elsewhere in the country, it may be sufficient to simply add all taxes on foreign income to net social benefits. This adjustment is correct if

(i) the SWR used in the original analysis equals the market wage (before tax) for foreign labor;

(ii) the present value of the foreigner's profit before tax is zero when discounted at the shadow rate of interest;

(iii) the cost of the foreigner's income net of tax is the same at market and shadow prices; and

(iv) the foreigner's propensity to reinvest is zero.

Only if one or more of these assumptions is thought to be seriously misleading, need we examine the implications of foreign participation in more detail.

16. If, on the other hand, foreign labor and capital would have been employed elsewhere in the country, no adjustment is required provided

(i) the net of tax wage of foreign labor is the same on the project and elsewhere in the economy;

(ii) the net of tax income of foreign capital is the same on the project and elsewhere in the economy;

(iii) the cost of the foreigner's income net of tax is the same at market and shadow prices; and

(iv) the foreigner's propensity to reinvest is the same in the project and elsewhere in the economy.

Once again, we only need a more sophisticated adjustment if we feel one or both of these assumptions is misleading. Sensitivity analysis is the obvious tool to use to assess the importance of different assumptions including the assumption made about the employment alternatives for foreign labor and capital.

Attachment

LSquire/HGvanderTak:lfb
July 18, 1972

ANNEX

1. Imagine that a unit of government investment which lasts for one year produces a return of R units all available for reinvestment and increases the total wage-bill by C units. If the government values its own investment 1/v times as much as consumption (because savings are sub-optimal) and assuming for simplicity that all wages are consumed then the value of the return on this investment may be expressed in units of investment as $R + {}_vC$.

2. Now imagine that a foreigner makes exactly the same investment. In this case, R = P + T where P is profit accruing to the foreigner and T taxation available to the government for reinvestment; C remains the same. Of the foreigner's profit (P), r is reinvested in the economy. The value of the remainder of his profit is zero by assumption. Denote the social value of the foreign reinvestment in terms of government investment by y. Then, the social value of the return on the investment by the foreigner is $Pry + T + {}_vC$. But y is the value of foreign investment over government investment and so

$$y = \frac{Pry + T + {}_vC}{R + {}_vC} = \frac{Pry + T + {}_vC}{P + T + {}_vC}$$

$$\text{or } y = \frac{T + {}_vC}{P(1-r) + T + {}_vC}$$

3. Now consider the extreme cases discussed in the text. If there is no taxation (T = 0) and no increase in consumption (C = 0), then y = 0. If, however, all profits accrue to the government or domestic consumers (P = 0), then y = 1. In practice the Bank assumes that domestic saving and consumption are equally valuable (v = 1), so that for Bank work

$$y = \frac{T + C}{P(1-r) + T + C}$$

4. To illustrate the possible significance of y, consider the following example. Let the ratio of foreign profit (P) to the sum of government taxation and domestic consumption out of increased wages (T + C) be 2 and let r = 0.5, then y = 0.5 and the cost of foreign income (1 - ry) is therefore reduced from unity to 0.75.

Appraisal Cost x Prep. of Projects

Mr. Andre Bussery
Sema-Metra
9, rue Georges Pitard
75015 Paris
FRANCE.

June 26, 1972.

Dear Mr. Bussery:

As promised in my letter of June 1, 1972, I wish to suggest some specific revisions to your May 19 draft of "Report on Methods of Project Appraisal in Developing Countries". I write also on behalf of Mr. van der Tak with whom I have discussed these suggestions. They are concerned only with your accounts of how the Bank appraises its projects. Where possible, I offer alternative phrases or sentences to overcome the difficulties and possible errors of further "translation". They closely follow our earlier suggestions.

I should further preface these suggestions by sympathizing with your difficulties in attempting to interpret how the Bank performs its economic appraisals. The authorized written accounts of the Bank's appraisal methods are not overly informative. As pointed out in your letter to van der Tak, this did not facilitate your task. I hope this can be remedied by the time the DAC holds another meeting.

Sub-Para. 5 at top of page 7: May I suggest that you delete the last sentence: "They encourage a practical approach to economic evaluation to supplement the traditional financial analysis." Reason: financial analysis is not the subject of your paper and, in any case, the Bank's economic evaluation is in no sense a "supplement" to its financial analysis of a project. For almost every project, both types of analysis are performed in Bank appraisals and each serves a quite different purpose.

The sentence immediately prior to this one could be amended slightly to read: "These documents, which are strictly for internal use only, suggest the use of accounting prices in appropriate cases, but leave fairly .....".

Mr. Andre Bussery June 26, 1972.

Para. 24: The first sentence refers again to a supposed dominating role of financial analysis in the Bank's project evaluations. Although you infer this to have been an early practice of the Bank, you do not make clear what practices are pursued now. Let me suggest that this sentence be replaced by the first two sentences below. These, incidentally, give a better introduction to your second sentence which is repeated below with a slight rewording:

"The most common single-valued criterion used in the Bank to summarize the relative benefits and costs of a project is the (internal) rate of return. Providing the benefits and costs are correctly identified and valued in terms of their real value to the economy, this rate, then more properly called the (internal) economic rate of return, measures the project's productivity of resource use against some standard rate for the country. The economic rate of return has been thus, for a long time, the main criterion of economic choice, on the clear understanding that many other factors intervene in reaching a favourable lending decision."

Para. 25: To continue the distinction implied above, I suggest that the word "financial" be inserted after "internal" in the second sentence as follows: "Financial profitability is usually measured by the (internal) financial rate of return of the project, . . . .".

May I suggest also that the fourth sentence be danged slightly to read: "In many cases, especially for revenue-producing projects, the Bank will derive its social valuation of goods and services from market prices assembled for the financial analysis."

In place of the final sentence in this paragraph, which reads, "There are no specific suggestions in respect to accounting prices", I think the following is a more accurate and informative statement of Bank policy in this regard:

"There are no detailed instructions on how to calculate appropriate shadow or accounting prices for use in economic appraisal. In principle, accounting prices are required to be used whenever market prices or other rates are seriously distorted and do not reflect real scarcities in the economy. They are most commonly applied to labor inputs because of the widespread incidence of underemployment; they are implicit in the use of an opportunity cost of capital as a standard "cut-off" rate of return; and they are applied more or less covertly whenever foreign exchange rates are seriously unrealistic. Values of internationally traded goods are derived from border prices."

Para. 27: In place of this paragraph, why not say:

"For projects for which the real value of benefits is difficult to measure, the Bank applies the criterion of minimum value of discounted costs for a given objective. This is the usual practice, for example, for public utility projects. It often supplements this by calculating an (internal) economic return, using revenues from additional output as a 'conservative' proxy for benefits."

Para. 29: Since accounting prices are dealt with in para. 25, I feel your first sentence could be deleted. In place of the balance of this paragraph, I suggest the following:

"Appraisal methods in practice are evolving. For example, the Bank is increasingly concerned . . . . . quantitative criterion, and it has, for some time, made a systematic use of sensitivity analysis and, in some special cases, a more elaborate use of risk analysis."

Para. 58: It would be more informative perhaps if the third sentence were changed to: "The World Bank accepts the principle of opportunity cost in estimating shadow wages; in practice, it generally assesses the actual level of labor opportunity costs on a case-by-case basis."

Para. 83: Our comments which were passed on to you previously concerning this paragraph (formerly para. 81) suggested that the location of the FOB price was also important for interpretating your diagram and that there was some ambiguity about the relevance of consumer surplus in valuing the net increase in output of traded goods. Instead of your statement: "According to official instructions, the World Bank takes into account the value $(Q_2 - Q_1) \times P_2$." I would like to suggest the following alternative:

"Presuming that the good is traded, the Bank would value the benefit at $(Q_2 - Q_1) \times P_3$. If imports are restricted by quota or a prohibitive duty, it would take the consumer's surplus $D_1D_2Q_2Q_1$, or, to be conservative, $(Q_2 - Q_1) \times P_2$."

And the following might be substituted for the section at the end of para. 83: "Finally, if $P_2$ is lower than $P_3$ and is in $P_2'$, for example, which is still above the FOB price, the Bank, while accepting the principle of a consumer's surplus, sometimes takes the value $P_2' (Q_2' - Q_1)$ to arrive at a 'minimum' return for the project; whereas the ODA . . . "

Mr. Andre Bussery June 26, 1972.

I hope these comments will be helpful to you. When your new version is ready, I would be glad if you could send a copy to me as well as to Mr. van der Tak.

Yours sincerely,

Paul Duane
Agriculture & Rural Economics Division
Economics Department

PD:cms

Mr. Andre Bussery June 26, 1972.

I hope these comments will be helpful to you. When your new version is ready, I would be glad if you could send a copy to me as well as to Mr. van der Tak.

Yours sincerely,

Paul Duane
Agricultural & Rural Economics Division
Economics Department

PD:cms

Appraisal, Cost x Prep. of Projects

Deputies, Advisers & Division Chiefs June 26, 1972

A. David Knox

Appraisal Reports: Cost Estimates of Foreign Goods

1. Practices in appraisal reports have varied somewhat in stating the costs of goods (equipment, materials, etc.) which are wholly imported. Sometimes the costs are shown as solely foreign, while on other occasions relevant local costs (handling and the like) are given.

2. A typical item in an appraisal report cost estimate should be somewhat as follows:

| Description | Ethiopian $ million | | | U.S. $ million | | | % Foreign Exchange Component |
|---|---|---|---|---|---|---|---|
| | Local | Foreign | Total | Local | Foreign | Total | |
| Highway maintenance equipment | 1.9 | 11.0 | 12.9 | 0.8 | 4.8 | 5.6 | 85 |

3. The cost estimate should indicate both the local cost of procurement and the foreign exchange component. The local cost would include all import duties and domestic taxes (ff these are not to be waived), the cost of unloading, assembly, testing (if any), and domestic transportation to site, etc, as well as local agent's fees and profit. The foreign exchange component would normally be the c.i.f. value (port of delivery) of the items concerned.

4. Would you please ensure that staff adopt the above procedure in future appraisal reports.

ADKnox:SCHardy:dfw

NOTE:

This memorandum should be listed in the Index to the Department's Compendium, as follows:

3. APPRAISALS AND LOAN AGREEMENTS

18. Cost Estimates of Foreign Goods 6.26.72

and inserted in chronological order in Section 3.

Please amend your Compendium accordingly.

JUN 27 10 01 AM 1972

CENTRAL FILES

Appraisal & Prep. of Projects
cc Choice of Prices
in Project Analysis

Distribution List May 19, 1972

Herman G. van der Tak

Shadow Prices and Project Appraisal

At a meeting on May 15 between the Development Research Center, Economics Department and the Steering Group for Sector and Project Economics, broad agreement was reached on the following program of work for the next six months.

1. Alternative Project Appraisal Methods

   a. General survey paper on Little/Mirrlees, Bruno, UNIDO, etc.;
      Status: Deepak Lal (ECD) preparing paper; draft now being revised and completed;
      Completion Date: July 15.

   b. Case studies to test comparative results and practical (dis) advantages of various methods.

      (i) Agriculture, Purna project (ex post);
      Status: Ex post evaluation study (Duane and Lal (ECD)) nearing completion; includes appraisal by alternative methods;
      Completion Date: July 30.

      (ii) Agriculture, ? project
      Status: Appraisal of project in lending program; normal staffing reinforced to try out alternative appraisal methods in operational conditions; project to be selected shortly for appraisal in July; Parish (ECD) and ? (APD) to report on experience;
      Completion Date: September 1.

      (iii) Industry, Indian Fertilizer Project
      Status: Same approach as for agriculture project; preappraisal/appraisal expected in June/August; Carmignani (NPD) and John Hansen (ECD) to prepare report on experience;
      Completion Date: September 15.

      (iv) Other case studies, if any, to be decided on after review of (i) to (iii).

c. Actual country practices with respect to application of project analysis methods and use of shadow prices.

Status: ECD is to explore usefulness of investigating in some selected countries actual practice of government agencies in project analysis and use of shadow prices, and make proposal to the Steering Group.

2. Shortcut Methods of Estimating Shadow Prices for Capital, Labor and Foreign Exchange

Three discussion papers are to be prepared exploring various possibilities of arriving at practicable and plausible estimates of basic shadow prices, such as might be made by Area economists.

(i) Balassa, Blitzer, Goreux (DRC).

(ii) Deepak Lal (ECD).

(iii) Maurice Scott[1/] (Oxford).

Status: Completion Dates: October 1.

3. Implication of Partial Use of Shadow Prices (Second Best Problems)

(i) Schydlowski (Harvard) is writing paper on certain aspects of this problem; has agreed to submit draft for review in June; may be able to do some further work during July-September; discussion paper to be available by October 1st.

(ii) Deepak Lal is expected to consider problem briefly in survey paper sub 1(a) above.

4. Sensitivity of Shadow Prices to Specification of Objective Function (in particular income distribution considerations).

a. ECD to investigate and report to Steering Group on possibility of commissioning paper(s) surveying practicable approaches to taking account of income distribution objectives in project, sector and country economic work. Purpose: Practical guidelines to staff.

Target Date for paper(s): December 31, 1972.
Possible Authors: Turnham (ECD) and/or Feldstein (Harvard).

5. Other Shadow Price Studies

Several other studies, with much longer time horizons for completion, are under consideration or in varying stages of implementation:

---

1/ Is expected to spend two weeks, or possibly longer, at the Bank in September/October 1972.

a. Sensitivity of shadow prices to underlying assumptions, with respect to

(i) Income distribution (DRC, Goreux, etc.)

(ii) Fiscal constraint

(iii) Trade policies (DRC, Irma Adelmann)

(iv) Changes over time (DRC, Manne, Bruno)

b. Problems of implementing shadow prices through tax/subsidies systems.

The focus, scope and progress of these studies is to be discussed further.

Seminars

There was general support for a series of workshops and seminars on project analysis methods and shadow prices, to be sponsored by the Steering Group. Workshops, limited to say 20 people, both staff and outsiders, would be most useful for more technical discussion and review of papers submitted in advance. Open seminars and/or panel discussions would provide a good forum for discussing the issues more widely in the Bank.

A first series should be organized for the first two weeks of October 1972, primarily to discuss the topics and papers listed in sub(i) - (iii) above. Additional contributors to be invited include Stephen Marglin, Harvard, on the so-called UNIDO Method (Guidelines volume has just been published), and Harberger (Chicago). ECD is to prepare proposal for a more detailed program.

HGvanderTak:lfb

Cleared with and cc: Messrs. Goreux, Henderson
cc: Messrs. B.B. King, ul Haq
cc: Messrs. Balassa, Blitzer, Mrs. Adelmann
cc: Messrs. Hawkins, Mrs. Hughes, Reutlinger, Duane, Hansen, Parish, Turnham
cc: Messrs. Chenery, Stern, Ray, Hayes, Tims, Holsen
cc: Messrs. Chadenet, Baum, Ballantine, Evans, Fuchs, Kanagaratnam, Knox, Koch, Sadove, Weiner
cc: Messrs. John Williams, Collier, B. de Vries, Gilmartin, Blobel, Maiss, Kuczynski, Avramovic, Gulhati, Qureshi
cc: Messrs. Hans Adler, Berrie, Bohr, Moore, Takahashi, El Darwish, van Dijk, Hendry, Pouliquen, Simmons, Zaidan, Carmignani, Warford
cc: Messrs. Schulmann, Willoughby
cc: Mr. Kamarck

Appraisal & Preparation of Proj

Mr. J. Burke Knapp

May 19, 1972

Raymond J. Goodman

Some Thoughts on Bunching.

There are two kinds of bunching: planned and unplanned.

1. Planned bunching occurs before the start of a fiscal year when more than the average number of loans/credits are scheduled for a particular quarter (or other period), usually the last. Thus, the Memorandum on the FY73 Budget and Program of Operations (dated May 15, 1972, para. 37) shows the following distribution of the operations program for that year:

TABLE 1

| | First Qtr. | Second Qtr. | Third Qtr. | Fourth Qtr. | Not Spec. | Total |
|---|---|---|---|---|---|---|
| No. of Projects | 35 | 60 | 65 | 73 | 17 | 250 |
| Percent | 14 | 24 | 26 | 29 | 7 | 100 |

2. Unplanned bunching is the result of forces at work during the fiscal year operating in contrary directions. The first is the result of a number of factors that tend to delay projects beyond their scheduled dates for presentation to the Board; an attempt is made in para. 6 of the same Memorandum to isolate the factors operating in FY72 and assign a relative significance to them. These factors would not of themselves cause bunching but simply a slower flow of operations through the pipeline than had been expected, owing to an excessive degree of friction in the system or to external circumstances. However, operations take place within a time frame -- the fiscal year -- and to that extent are not analogous to passing oil through a pipeline. A conscious effort is made, with increasing emphasis as the year progresses, to speed up the flow of projects so that an acceptable number are presented before the year ends. All operational departments take part in this effort under strong exhortation by the Management. Processes are speeded up, corners are cut, and pressure is put both on the staff and on the prospective borrowers to make up for time lost earlier in the year. The interaction between the forces causing delay and the forces attempting to accelerate operations causes bunching.

3. Since both planned and unplanned bunching tend to occur towards the end of the fiscal year, they reinforce each other. For this reason the actual bunching in the program as it develops is usually worse than that in the program at the start of the year. The effect can be seen by comparing the forecast lending program for FY73 given in the Memorandum (also para. 37) with the forecast operations program shown above:

TABLE 2

| | First Qtr. | Second Qtr. | Third Qtr. | Fourth Qtr. | Total |
|---|---|---|---|---|---|
| No. of Projects | 25 | 25 | 45 | 60 | 155 |
| Percent | 16 | 16 | 29 | 39 | 100 |

An analysis of earlier years shows the same phenomenon. Operations programs and actual programs for the fiscal years 1970/72 are shown in the Annex.

4. Since we have to operate within defined time periods -- and the fiscal year is probably inescapable for all kinds of reasons -- we have to accept a degree of unplanned bunching, unless we are prepared to have an even larger operations programs than is now proposed, sufficient to build up a reservoir of projects which would permit a controlled flow of project proposals to the Board throughout the year at the desired level. However, this would be costly in terms of staff inputs, and therefore inefficient, and in any case would be difficult to accomplish in the short run.

5. The alternative is to offset unplanned bunching by a deliberate policy of planned "de-bunching"; that is, to reverse the present tendency to schedule a higher than average number of projects in the last quarter (or the last two quarters), and schedule a lower than average number. The program of Board presentations drawn up at the beginning of the year would thus have a built-in mechanism to compensate for slippage, instead of -- as at present -- a built-in tendency to exacerbate it.

6. For example, in the first two quarters of FY73 there are 95 projects scheduled to come before the Board (Table 1) of which only 50 are expected to materialize (Table 2), a slippage factor of almost 53%. Assuming that none of the others is dropped altogether, this will leave an overhang of 45 projects at the start of the third quarter. However, the total number expected to be presented during the year as a whole is 155, so that only 60 additional projects will be required to fulfill this target. I would simply spread these remaining projects over the last two quarters, stepping the number down in order to allow a "de-bunching effect". Thus, at the start of the fiscal year the program might appear as follows:

TABLE 3

| | First Qtr. | Second Qtr. | Third Qtr. | Fourth Qtr. | Total |
|---|---|---|---|---|---|
| No. of Projects | 35 | 60 | 40 | 20 | 155 |
| Percent | 22 | 39 | 26 | 13 | 100 |

This table is the operations program (Table 1) for the first two quarters, and a provisional statement of the number of projects that can definitely be scheduled during the last two. Timetables showing Board presentation in either of the first two quarters would be accepted. For the third quarter, only 40 timetables with the highest rating would be accepted, and for the last quarter only 20. In choosing these 60 projects consideration would be given to regional and sectoral balance. Other projects in the operations program would not be given a date for presentation: projects originally scheduled for the third quarter would show presentation "After April 1, 1973", and those originally in the fourth quarter "After July 1, 1973".

7. It would, of course, be possible to modify or refine the proposed system in a number of ways. For example, it might be better to abandon the figure of 155 projects since it is essentially arbitrary, being derived from the operations program by cutting off 40% to allow for estimated slippage. For the third and fourth quarters, one might simply accept all projects with an original 4 and 5 rating for the quarter; or a 4 and 5 rating for the third, and a 5 only for the fourth.

8. In any case, the program would be revised at intervals after the start of the year, say every two months. Just before the middle of the fiscal year, timetables would be accepted -- with specific Board dates -- for all projects then considered likely to be ready for presentation in the third quarter. The number of projects to be allotted a firm date in the fourth quarter would be decided at the same time; the rest would continue to be shown in FY74. The process would be repeated just before the start of the fourth quarter.

9. It may be objected that eliminating a Board presentation date for a number of projects in the operations program would permit staff, especially Projects Department staff, to relax on these projects. This is true, but it is not an objection. We know that we cannot consummate 250 operations in FY73. By deciding early on those that have the best chance of being completed during the year, and then giving them a prior claim on available staff, we would save time, energy and frustration, and we might end up by accomplishing more.

Annex attached.

cc: Mr. Aldewereld
Mr. Adler

RJGoodman/am

1970

Operations Program (As of June 30, 1969)

| | First Quarter | Second Quarter | Third Quarter | Fourth Quarter | Not Spec. | Total |
|---|---|---|---|---|---|---|
| No. of Projects | 27 | 42 | 37 | 73 | - | 179 |
| Percent | 15 | 24 | 20 | 41 | - | 100 |
| Actual | | | | | | |
| No. of Projects | 17 | 20 | 24 | 58 | - | 119 |
| Percent | 14 | 17 | 20 | 49 | - | 100 |

1971

Operations Program (As of July 31, 1970)

| | | | | | | |
|---|---|---|---|---|---|---|
| No. of Projects | 20 | 48 | 37 | 80 | 8 | 193 |
| Percent | 10 | 25 | 19 | 42 | 4 | 100 |
| Actual | | | | | | |
| No. of Projects | 14 | 27 | 23 | 65 | - | 129 |
| Percent | 11 | 21 | 18 | 50 | - | 100 |

1972

Operations Program (As of June 30, 1971)

| | | | | | | |
|---|---|---|---|---|---|---|
| No. of Projects | 19 | 59 | 62 | 80 | 7 | 227 |
| Percent | 8 | 26 | 28 | 35 | 3 | 100 |

Probable Outcome (Estimated May 1972)

| | | | | | | |
|---|---|---|---|---|---|---|
| No. of Projects | 16 | 17 | 41 | 61 | | 135 |
| Percent | 12 | 12 | 31 | 45 | | 100 |

Appraisal + Preparation of Projects

Mr.Pieter Roeloffs May 16, 1972

Howard E. Tolley

Project Costs

The following is submitted with reference to your memo dated May 12 on the above subject:

Ethiopia: No increase in the total costs of ongoing projects is anticipated at this stage. Likely increases in project costs due to currency realignments or cost - overruns in individual project items are expected to be met within the contingency provisions and/or by adjustment within the allocation of proceeds of loans/credits.

Somalia: There is no problem with regard to the recent Education and Second Highway projects.

In the case of the First highway project, total project cost was estimated to be $14.2 million which was financed (95%) jointly by IDA ($6.2 million), FED ($5.1 million) and UNDP ($2.1 million) with the Government contributing the rest.

The cost of building the road was originally estimated at $8 million. Subsequent detailed engineering and delays in calling tenders led to an upward revision of the cost to $10.8 million. FED was unable to provide additional funds and the capacity of the Government to finance the excess cost was limited. In order to avoid further delay in award of construction contract, IDA made a supplementary credit of $2.3 million in June 1968, which, together with a $0.5 Government contribution covered the revised road construction costs.

The road was substantially completdd in March 1971. The total estimatdd cost on the basis of agreed claims and payments for additional works has amounted to $10.47 million. 9 claims by the contractors amounting to about $2.4 million are still pending. The contractors have requested for arbitration. An amount of $0.61 million is still available for settling the claims, including $0.32 million of IDA supplementary credit. ~~Since~~ The timing of ~~ADR~~ arbitration proceedings and their outcome cannot be anticipated. However, we are not intending to seek further supplementary financing by IDA.

MAJalil:sdb

Mr. Peter Moeloff

May 16, 1972

Howard E. Tolley

Project Costs

The following is submitted with reference to your memo dated May 12 on the above subject:

Ethiopia: No increase in the total costs of ongoing projects is anticipated at this stage. Likely increases in project costs due to currency realignments or cost - overruns in individual projects items are expected to be met within the contingency provisions and/or by adjustment within the allocation of proceeds of loans/credits.

Somalia: There is no problem with regard to the recent Education and Second Highway projects.

In the case of the First Highway project, total project cost was estimated to be $11.2 million which was financed (55%) jointly by IDA ($6.2 million), FED ($2.1 million) and UNDP ($2.1 million) with the Government contributing the rest.

The cost of building the road was originally estimated at $8 million. Subsequent detailed engineering and delays in calling tenders led to an upward revision of the cost to $10.8 million. FED was unable to provide additional funds and the capacity of the Government to finance the excess cost was limited. In order to avoid further delay in award of construction contract, IDA made a supplementary credit of $2.3 million in June 1968, which, together with a $0.5 Government contribution covered the revised road construction costs.

The road was substantially completed in March 1971. The total estimated cost on the basis of agreed claims and payments for additional works has amounted to $10.47 million. 9 claims by the contractors amounting to about $2.4 million are still pending. The contractors have requested for arbitration. An amount of $0.67 million is still available for settling the claims, including $0.32 million of IDA supplementary credit. Since, timing of ~~XXXXX~~ arbitration proceedings and their outcome cannot be anticipated. However, we are not intending to seek further supplementary financing by IDA.

MAY 18 4 52 PM 1972

MMalik:eb

Appraisal Rep-Ag Projects

Mr. B. Chadenet

May 15, 1972

O. H. Calika

Comparisons between Bank Appraisal Reports and Similar Reports from IADB, ADB and USAID - Ref. your memorandum of April 24, 1972

1. Thank you for sending us three appraisal reports by ADB, IADB and USAID on education projects/programs. We have reviewed them and our analysis and specific comments are given in the note attached. The following are some general comments based on our analysis.

2. Of these reports, only the one from ADB is directly comparable to our appraisal reports. The report from IADB is, in fact, a highly technical document meant, probably, for limited distribution; its very title ("informe tecnico-financiero") indicates that it is to be considered more as a staff working paper rather than an appraisal report. The report from USAID appraises a sector program in education of a type that has not yet been assisted by the Bank.

3. All three reports, in particular those from IADB and USAID, include some data which are normally included in our economic reports or in the President's Report. All three reports are much bulkier and present more detailed information than normally given in our appraisal reports. They are mostly descriptive, while our aim is to produce concise, analytical and essentially operational reports. In length, the main reports range from 44 pages (ADB) to 241 pages (IADB). In spite of the length, some key data, particularly those on projected enrollments, teacher requirements and recurrent costs, are often missing. It appears also that the presentation and editing of these reports did not receive the attention it is usually given in the case of the Bank reports.

4. In some areas, however, these three reports appear to be superior to ours. They all include more detailed information on the status of implementation of previous projects in the same sector and deal with financial and auditing procedures of the Borrower's executing agency; such information might be incorporated in some annexes/appendices of our appraisal reports.

5. As to the types of projects, a comparison is difficult to make. The ADB project approach appears to be closer to ours. The other two agencies may be relying to a great extent on their field staff: USAID by agreeing more or less to a "line of credit" and leaving it to its field staff to execute it, and IADB by having most of the project execution details settled before a loan is finally made. On a selective basis, we might try to experiment with the IADB approach, although we shall seldom have a comparable field support to prepare the way.

6. We would like to keep these documents for a while for further study and discussion within the Department.

cc: Messrs. Baum, Ripman, Ballantine (o/r)
EPD Division Chiefs, Advisers, Mr. Fennell

J.S. cel
GPennisi/OHC:jsc

ADB - Appraisal Report of Vocational Training Institutes Project in Korea, of February 11, 1972

1. The Project The Report appraises a project consisting of physical facilities and technical assistance for five vocational training institutes, including one prototype training center for technicians.

2. Financing The total cost of the project is estimated at US$ 10.5 million. The loan (US$ 3.7 million) will cover the direct foreign exchange component (equipment and technical assistance) and is for 20 years, including a 5 years grace period, at a 3% interest rate.

3. The Report

(a) Presentation The Report consists of (a) Summary and Conslusions (4 pages), (b) The Main Report (44 pages), and (c) 22 Annexes. It is, therefore, considerably bulkier than an average Bank appraisal report. The presentation of the Main Report, however, has many similarities to the general lines of our appraisal reports: after a general description of the Korean economic background, the report examines manpower and education needs, describes the project and its justification and summarizes the agreements reached during negotiations. Throughout the Report, there is a general bias in giving more weight to economic, financial and administrative matters than to education and training issues. It is difficult to say whether this reflects a general practice or the staffing of this particular mission.

(b) Content The quality of the Report is good. Economic justification for the proposed project is very thorough and includes interesting information on labor market trends and labor productivity that are not often found in Bank appraisal Reports, because of either lack of data or space constraints or both. Where the content of the Report is clearly inferior to ours is in the treatment of educational and training issues: curricula, staff availability and even syllabi are discussed at length, but the key problems and the strategy to solve them are not sufficiently highlighted. Furthermore, the chapter on the "financial aspects" of the project is weak, as it consists of a project-related "cash flow" projection. Its usefulness is limited. The project is not analyzed within the framework of overall education financing in Korea.

4. Points of Interest A major point of interest for our operations is the very detailed covenants and conditions recommended in the Report and included in the Loan Agreement. The Project appears to be relatively simple and in a very advanced stage of preparation as indicated, inter alia by the fact that equipment lists were approved during the appraisal. Nonethless, there are as many as 10 special covenants and they concern matters such as the salary level of the instructors, reviews of the syllabi after the Loan Agreement signing, and auditing of the accounts of all project schools. The circumstances were probably such to justify tight control; this, however does not come very clearly out of the Report.

Annex 2

IADB Report
"National Universities and Students Loan Project in Argentina",
of September, 1970

1. The Project. The Report appraises a project consisting of:

(a) physical facilities and technical assistance for the extension of 9 universities; and

(b) a financial contribution to the Argentinian Students Loan Fund.

2. Financing. The total cost of the project is estimated at US$71 million. The loan (US$40 million) will cover the foreign exchange component and part of the local currency expenditure. There is no information on the estimated foreign exchange component, the extent of local currency financing and the terms of the loan.

3. The Report.

(a) Presentation. This is a very bulky Report. Altogether, the Report covers 310 pages, divided as follows: Summary and Conclusions (8 pages); the Main Report (241 pages); Appendix on economic evaluation of the Argentina University Plan (61 pages). The reading of the Main Report and of the Appendix are very difficult not only because of their length but also, and mainly, because they are addressed, probably, to an audience of specialists in different fields. In addition, the flow of the Report is frequently interrupted by extensive quotations of Laws, Regulations, references to studies published by other organizations (OECD, IBRD, etc.) and by some excursions into theory. Finally, the Main Report includes detailed reviews of the master plans of the 9 universities with reproductions of drawings, sketches and photographs.

(b) Content. Some parts of the Report are very good; they are, however, lost in a large array of data offered to the reader. Noteworthy sections are: pp. 12-27 of the Main Report where a summary of the main issues in education with reference to the University plan is given and pp. 22-61 of the Appendix on high level manpower requirements, regional socio-economic needs and the likely contribution of the proposed Universities towards meeting them.

4. Points of Interest. It is noteworthy that the Report appraises a project which is in a much more advanced stage of preparation than it is usually the case for most education projects. Master lists of equipment, architectural master plans for the Universities and preliminary drawing

for a larger number of the buildings, terms of reference for the technical assistance, all these steps have apparently been already completed before the appraisal. As a consequence, the implementation period (3 years) is considerably shorter than in Bank education projects, in spite of the complexities of a scheme involving no less than 9 regional Universities. In addition, the Report defines clearly the role of the IADB field staff in helping implementation and in supervising the project. Finally,most of the "conditions" recommended for inclusion in the Loan Agreement are standard in nature (appointment of Project Unit staff, keeping of project accounts, etc.) as all the main issues appear to have been settled during the project formulation period preceding the appraisal.

US-AID-Appraisal Report "Brazil Education Sector Loan II", of June 15, 1970.

1. The Project The Report appraises a sector program consisting of the following elements:

(a) Construction and equipment of primary and secondary schools in 6 states of Brazil; and

(b) technical assistance for planning, management, curriculum development, staff training, etc.

The detailed definition of the content of the program (number of schools, types of experts services) will be worked out during implementation, by the Brazilian Ministry of Education and the US-AID mission in Brazil. Specifically, the States will present plans to be approved by the Ministry of Education and US-AID.

2. Financing The total cost of the program is estimated at US$ 100 million, 50% of which is to be covered by a loan for 40 years, including a 10-year grace period, at a 2% interest rate during the grace period and 3% thereafter. The loan will be channeled through a Fund under the control of the Secretariat of the Ministry of Education with the aim, inter alia, of gradually rationalizing a complicate system of transfer from the Federal Government to the States.

3. The Report

(i) Presentation The Report consists of : (a) Summary and Conclusions (17 pages); (b) Main Report (104 pages); and (c) six Annexes (41 pages) including draft loan authorization and other statutory documents. It is, therefore, much longer and more detailed than a standard Bank appraisal Report which, in length, does not usually exceed the Summary and Conclusions of the Report. In the Main Report, an analysis of the main issues in education and training (29 pages) is followed by : (a) description of the program (44 pages); (b) education financing (15 pages); (c) economic justification (12 pages); and (d) implementation (4 pages). There are several repetitions, even of entire paragraphs or pages that could have been avoided by some editing. It is obvious that the five sections of the Main Report have been written by different hands. Finally, some key information, such as medium term projections of enrollments, teacher needs and costs, is missing, in spite of the length of the report.

(ii) Content Some parts of the Report are very good, nevertheless. The section on educational issues and finance are well-written and strategy-oriented. In addition, the contribution of the program to solving some of the major problems of the education system is spelled out clearly and adequate emphasis is given to the software aspects of the program in building a case for its financing. On the other hand, the "economic section" of the Report is weak and redundant, especially with regard to an unsuccessful attempt to quantify the benefits of the program.

4. Points of Interest A point of interest for our work is the approach of sector loan to finance the program in a highly decentralized education system and to obtain a significant institutional impact in the modernization not only of curricula but also and mainly of administrative procedures. The technique of establishing a Fund to rationalize separate systems of financial transfer from the Federal Government to the States appears to have considerable merit. This approach, however, may require the existence of field staff to help implementation.

Appraisal & Prep of Projects

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

# OFFICE MEMORANDUM

TO: Mr. Bernard Chadenet DATE: May 15, 1972

FROM: H. Fuchs

SUBJECT: Comparison between Bank Appraisal Reports and Similar Reports from IADB, ADB and U.S. AID

I have reviewed the report prepared by the Asian Development Bank (ADB) with date of September 30, 1971 on the Appraisal of the Mineral Sands Project in Ceylon. I am assuming that this is a report for ADB's Board rather than one for internal staff use. My comments below are given separately on the report's form and its substance.

Form

The report is very much structured along the lines of our Bank Appraisal Reports and it appears fairly evident that our reports have served as samples. There are nevertheless differences. The ADB report contains at the outset two pages of statistical information on Ceylon and its economy similar to the Country Data tables in our President's Reports. Also prior to the discussion of project aspects there are about three pages devoted to general background on Ceylon's economy and its mining sector. I do not know whether this report is the only basis on which the Board has to make its decision on the project or whether there is some additional paper to support the proposal similar to our President's Report.

Excluding the Summary which in intent is identical to our Summary and Conclusions, the report contains 34 pages and another 19 appendices, mostly tables. The report presents the findings of the appraisal mission rather than ADB's. With the exception of a summary of capital costs, there are no tables in the text and since the report despite its length is not too well focused it is not only somewhat difficult to comprehend but the reader pretty well has to consult the appendices if he wants to obtain a full picture of the viability of the project. On the other hand there is a good deal of rather detailed technical information much of which we would show in Annexes.

There is no particular reference made to issues already negotiated or to be negotiated except for the recommendation that certain managerial aspects of the project authority should be strengthened and the terms (length and grace period) of the ADB loan.

In summary my main comment on the form of the report is that--although the Table of Contents would suggest a report very similar to ours--the appraisal does not make an attempt to present information in an adequately concentrated and well focused manner and thus requires from the reader a good deal of additional "work" to enable him to come to his own evaluation of the project.

Substance

As mentioned before the coverage of the fundamental areas of an appraisal, technical financial and economic, is quite similar to that of our reports, although the technical and generally descriptive part dominates. For example only about three pages are devoted to past and future financial and economic analysis. In contrast a fair amount of space is given to organization and management (about 5 pages).

There is very little analysis and focus given to the real risks of the project--a company that has been showing losses until recently; a project that is to increase mining output more than four times; marketing arrangements which are rather unclear and where virtually all the output is destined to one market, Japan; and finally the fact that ADB contributes more than 60% to the cost of the project and upon its completion will virtually be the sole lender.

While the benefits as presented in the report are high (21% financial and 28% economic return) they are likely to be overstated. There is for example no explanation why variable production costs are expected to go up by only 2.7 times as against increases in sales proceeds (without any price changes) of more than four times. Capital costs contain a contingency of 15% but it is equally applied to both local and foreign expenditures and there is no explanation why such a particular percentage, who estimated capital costs or when they were established or who in fact conceived or designed the project. Working capital is neither shown nor discussed in the report except in an appendix. There are other questions that the report does not answer and thus raise the query how thoroughly the appraisal was made.

Inputs into the appraisal appear to have been heavy both as to time and staff resources. The project came to ADB in December 1969; a fact finding mission went to Ceylon in January 1970; the project was pre-appraised in November 1970 and again in June 1971 and appraised in August 1971. The appraisal mission consisted of six people; on the face of it this is a very substantial manpower allocation, particularly for a relatively small loan of US$4.1 million.

If you wish to have more details I will be happy to supply them but I have intentionally kept them to a minimum because I do not think that the appraisal report offers any features or approaches to issues, evaluation techniques, and in the way of presentation that could serve as a guide for improving our own appraisal reports.

HFuchs:sml

cc: Messrs. Baum
Urquhart
Kalmanoff

Appraisal + Preparation of Projects

Division Chiefs

May 12, 1972

S. Shahid Husain

Project Costs

A number of cases have arisen where project costs, even during the initial stages of implementation, have turned out to be larger than at appraisal. I have already come across certain cases where supplementary financing from the Bank has been requested. In order for us to have a complete picture of the situation, could you please fill out the following questionnaire for your countries.

Column 1. Project

Column 2. Cost at appraisal

Column 3. Sources of Financing

Column 4. Revised cost

Column 5. Sources of Financing for revised cost

Column 6. Remarks - which should include judgment on whether the project can be completed within the initially estimated cost by modifying it.

Mr. Roeloffs will be working with you on this and I would appreciate your sending this to Mr. Lejeune by May 17.

cc: Mr. Lejeune
Mr. Roeloffs

SSHusain:ab

Division Chiefs

May 12, 1972

S. Shahid Hussain

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Mr. Roelofs will be working with you on this and I would appreciate your sending this to Mr. Lejeune by May 17.

cc: Mr. Lejeune
Mr. Roelofs

SSHussain:ab

JUN 9 4 40 PM 1972

Appraisal & Preparation of Projects

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

# OFFICE MEMORANDUM

TO: Distribution List

DATE: May 10, 1972

FROM: Herman G. van der Tak

SUBJECT: Shadow Prices and Project Appraisal

Following recent discussions, memoranda (from Balassa, Henderson, van der Tak) and research proposals (DRC, Economics), I should like to meet with you on Monday, May 15, 10 A.M., in Room C-303, to:

(i) Agree on a program of work on shadow prices and project appraisal, and

(ii) discuss a series of seminars on this topic.

Work program. Tentatively this work program includes the following:

1. Alternative project appraisal methods.

   (a) General survey paper on Little/Mirrlees, Bruno Test, UNIDO (Marglin), etc.;

   Deepak Lal (ECD), in progress, draft being revised and completed, completion date?

   (b) Case studies.

   (i) Agriculture, Purna project;

   Duane and Lal (ECD), in progress, completion date?

   (ii) Agriculture, project?

   Parish (ECD) and ? (APD), Start? Completion?

   (iii) Industry, project?

   Carmignani (NPD) and ? (ECD), Start? Completion?

   (iv) Other?

2. Shortcut methods of estimating shadow prices for capital, labor, and foreign exchange.

   (a) Balassa, Blitzer, Goreux

   Scope? Start? Completion?

(b) Deepak Lal (ECD)

Scope? Start? Completion?

(c) Maurice Scott (ECD?)?

3. Implications of partial use of shadow prices (second best problems).

(a) Deepak Lal (ECD)

Part of survey paper sub 1 above?

(b) Schydlowski?

4. Sensitivity of shadow prices to specification of objective function (in particular, income distribution considerations).

(a) Practicable method of taking account of income distribution in project selection.

Author?, Start? (soon), Completion (6 months?)

(b) Long-term study of impact on shadow prices of alternative specification of objective function.

Goreux and others (DRC); in progress, completion date?

5. Fiscal constraints in implementing shadow price allocation?

(i) Effect of fiscal constraint on relevant shadow prices.

(ii) Tax/subsidies system for implementing shadow prices.

Author? Start? Completion (6 months?)?

6. Sensitivity of shadow prices to different policy assumptions.

(i) Trade policies;

Irma Adelman (DRC) Start? Completion?

General question also to be discussed in Lal's survey paper, (sub 1 above).

7. Changes in shadow prices over time.

Manne (DRC), Start? Completion?

Bruno (DRC), Start? Completion?

I hope that during our meeting we can firm up this program, assign definite responsibilities and agree on timetables.

Seminars

I have received several suggestions for a series of seminars and other discussions on the use of shadow prices in project analysis, and fully agree that this would be useful and desirable. In my view it will be most effective to organize "limited access seminars" to discuss specific topics on the basis of prepared papers. In addition, open seminars should be held from time to time to disseminate whatever results are obtained more widely in the Bank.

A tentative series might include the following seminars:

1. On alternative project appraisal methodology.

   (a) Deepak Lal, on general survey paper being prepared.

   (b) Maurice Scott, on Little/Mirrlees with special reference to experience with actual application. (Paper now being completed).

   (c) Stephen Marglin on UNIDO Method (Guideline volume has just been published).

   (d) Authors of Bank case studies.

I propose we start the series in September, after the summer recess, and allowing adequate time for preparation and absorption of papers for discussion. I suggest we limit participation to twenty or less, and get some of the participants as discussants, or at least participants, in other sessions. Would it be preferable to concentrate a number of seminars in a short period, say a week, or rather stretch it out?

2. On second best problems etc. (see work program sub 3 and 5 above). To be scheduled after completion of relevant papers.

3. On shortcut methods for estimating shadow prices (see work program sub 2 above). Idem.

4. Treatment of income distribution/employment in project analysis. Idem.

5. Other.

HGvanderTak:lfb

Distribution:

cc: Messrs. Haq, B. B. King

Messrs. Henderson, Hawkins, Reutlinger, Mrs. Hughes (o.r.)

Messrs. Goreux, Balassa, Blitzer

Mr. Tims

Appraisal Cost & Prep. of Proj.

Mr. B. Chadenet May 10, 1972

L.J.C. Evans

Comparison Between Bank Appraisal Reports and Similar Reports from IADB, ADB and USAID

1. With your memorandum of April 24 you sent me three appraisal reports on agricultural projects - Ceylon Irrigation (ADB), Mexico Credit (IDB), and Guatemala Rural Development (AID). We have reviewed these reports and I attach some detailed comments on them in memoranda from Messrs. Bartsch, van Cigch and Rowe.

2. In all three cases the reports are considerably longer than the normal Bank appraisal report.

3. Apart from this, the ADB report is similar to a Bank report and this is not surprising since ADB have modelled their procedures on ours.

4. The IDB report treats the technical and economic aspects separately not even bringing them together in one summary. Compared with one of our reports, the IDB one lacks cost analysis and justification of the financial arrangements.

5. The AID report gives considerably more background material than our appraisal reports do and includes some material that we would normally leave to our Bank Economic reports. There is an interesting treatment of a "social rate of return" which is outlined in Mr. Rowe's memorandum.

6. There does not seem to be anything in these reports which would cause us to modify the style or content of our appraisal reports in present circumstances.

Attachments

cc: Messrs. Wapenhans
Adler

NMcIvor:fh

Mr. B. Chadenet

May 10, 1972

L.J.C. Evans

Comparison Between Bank Appraisal Reports and Similar Reports from IADB, ADB and USAID

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Attachments

cc: Messrs. Wapenhans
Adler

WMcIvor:fb

MAY 11 12 33 PM1972

Appraisal / Prep of Projects

May 8, 1972

Mr. Erich Bachem
Board of Management
Kreditanstalt für Wiederaufbau
Palmengartenstrasse 5-9
6 Frankfurt-am-Main, Germany

Dear Erich:

You may not recognize this voice from your past but many years ago we had occasion to work together on Malaya as it was then called. I recall a few days in Kuala Lumpur when you, John Edelman and I were there together.

I returned to New Delhi to work for the Government of India in the mid-sixties and then joined the staff of the Pearson Commission. After the Commission finished its report, I joined Bill Diamond's Department.

I am writing to you about some work we are doing to develop a computer program for undertaking sensitivity analysis in the context of project appaisal. Apparently, KfW already has such a computer program. Mr. Advani, an ICICI official who visited you recently, was told that such a program was in an advanced stage of readiness. We would like very much to know more about it. If at all possible, could you send us a copy of this computer program. It may be that you have already done the work we are now initiating.

Looking forward to seeing you one day either in Washington or in Frankfurt and with my best wishes,

Yours sincerely,

Ravi Gulhati

Ravi Gulhati
Chief Economist
Development Finance Companies

RG//mo

May 8, 1972

Mr. Erich Bachem
Board of Management
Kreditanstalt für Wiederaufbau
Palmengartenstrasse 5-9
6 Frankfurt-am-Main, Germany

Dear Erich:

You may not recognize this voice from your past but many years ago we had occasion to work together on Malaya as it was then called. I recall a few days in Kuala Lumpur when you, John Bodiman and I were there together.

I returned to New Delhi to work for the Government of India in the mid-sixties and then joined the staff of the Pearson Commission. After the Commission finished its report, I joined Bill Diamond's Department.

I am writing to you about some work we are doing to develop a computer program for undertaking sensitivity analysis in the context of project appraisal. Apparently, KfW already has such a computer program. Mr. Advani, an ICICI official who visited you recently, was told that such a program was in an advanced stage of readiness. We would like very much to know more about it. If at all possible, could you send us a copy of this computer program. It may be that you have already done the work we are now initiating.

Looking forward to seeing you one day either in Washington or in Frankfurt and with my best wishes,

Yours sincerely,

Ravi Gulhati

Ravi Gulhati
Chief Economist
Development Finance Companies

RG\lmo

MAY 15 10 29 AM 1972

Appraisal Cost + Prep of Projects

Mr. David L. Gordon

May 8, 1972

G. B. H. Renger

Comparison between Bank appraisal reports and similar reports from other institutions

1. I went briefly over IDB's appraisal report of CORFO, Chile, dated August 1969. This report is woefully long in description but equally short in analysis. Most of the body of the report should have been put in annexes.

2. Recommendations are mostly very general and the reader often looks in vain for the specific action required to achieve a desired objective. Also, one does not get a feel of CORFO's performance under previous IDB loans; at most, one finds statement like "the intent of the loan contract does not seem to have been fully carried out". The report contains long descriptions of industrial sectors but again specifics of policy changes required etc., are lacking. The discussion of the financial projections and prospects is completely inadequate.

3. All in all, there is nothing in this report on the basis of which we can improve our own work.

4. I attach a more detailed note by Mr. Kendall on an AID appraisal of CABEI.

GBHRenger/me

Mr. David L. Gordon

May 8th 1972

G. B. H. Benger

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GBHBenger/ms

MAY 3 2 34 PM1972

R+D

ADB

Mr. H. A. Adler

May 8, 1972

L. W. Bartsch

Comparison between Bank Appraisal Reports and the Asian Development Bank Appraisal of Walawe in Ceylon

1. As requested, we have reviewed the ADB's appraisal report and compared it with our own irrigation appraisal reports. Although ADB's report is considerably longer than our own, there is little difference in substance or presentation between them. In fact, this appraisal report and another one for Korea, which we have reviewed on a previous occasion, follow closely our outline and methodology in every respect. When ADB started operations, some of their staff spent time at the Bank reviewing our appraisal procedures and it appears that we had some influence on their thinking.

AG/pa

Mr. H. A. Adler

May 8, 1972

I. W. Burbach

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ADBpa

Appraisal & Prep of Projects

Mr. L.J.C. Evans

May 5, 1972

Don Stoops DS

Comparison Between Bank Appraisal Reports and Similar Reports from IDB, ADB and USAID

You have asked me to review an appraisal report of the Inter-American Development Bank concerning Mexico, agro-industrial loan to Nacional Financiera. Attached please find comments made by Mr. F. van Gigch.

FvanGigch:dsq

Attachment

Approved Prep'd Paper

Mr. L.J.O. Evans

May 5, 1972

Don Stoops

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P. van Gigch:dad

Attachment

MAY 8 4 40 PM 1972

Appraisal & Prep of Projects

Mr. Don Stoops May 5, 1972

F. van Gigch

Comparison Between Bank Appraisal Reports and Similar Reports from IDB, ADB and USAID

As you requested, I have reviewed the IDB appraisal report on Mexico, Agricultural and Agro-Industrial Credit to the Nacional Financiera (Mexico - Prestamo a Nacional Financiera, S.A. Credito Agricola y Agro-industrial). This appraisal report concerns a request from the part of the Mexican Government for US$40 million loan to help support a US$102 million project consisting in financing agricultural and agro-industrial development. This is a follow-up operation to an initial credit program for small farmers (163/SF-Me) operated through one of Bank of Mexico's Funds, with the addition, this time, of an agro-industrial component.

The appraisal report of IDB is longer than ours and different in structure. There is obviously much less emphasis on editorial presentation since parts of the report are written in Spanish and others in English. Clearly, different portions of the report have been written by different persons and therefore the style as well as the quality of the content vary. The appraisal report is made up of three major portions: (1) technical report, (2) economic evaluation, and (3) legal report. I did not have a chance to see the legal report but I presume it would consist on the legal draft documents. I found it difficult to go through the report because I annexes and appendices are intermingled with the body of the report.

The technical report starts out by a summary, conclusions and recommendations section. This section is longer than the summary of our own appraisal report (10 pages). I found it quite informative and I notice that it included also a recommendation section similar to our own recommendations, which we place at the end of the report. With few modifications, this first section could constitute the appraisal report proper, since most of the information contained in the body of the report would, in the case of our own reports, go into the annexes. Since the economic evaluation is a separate report, the summary section did not include any reference to the economics of the project. The body of the technical report is long, often repetitious, and places more emphasis than most of our report on institutional aspects. I missed in the report any cost analysis of the project or any justification of the financial arrangements. Understandably, there was no detailed description of the project area since the project is countrywide and constitutes a follow up to a previous operation. I do not remember seeing any reference to procurement. Organization and management and lending policies were dealt with some detail. The marketing section is long but unsophisticated.

The economic evaluation is a self-contained report including a summary and recommendations. In addition to the evaluation proper of the project, it includes detailed economic background similar to what we would find in our CPPs or the President's report. It also includes financial and economic rates of return.

FvanGigch:dsq

Appraisal - Prog Proj

Mr. Don Stoops

May 5, 1972

P. van Dijck

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PvanDijck:dcd

Appraisal Cost + Prepard. of Proj.

Mr. H. B. Ripman

May 4, 1972

S. S. Kirmani

Project Costs and Completion Time

I refer to your memo of April 18 and April 21, 1972 on the above subject. Attached are Table 1 "Completion Time" and Table 2 "Project Costs" for four projects.

The explanation of delays and cost increases as required by you is shown on Attachment 1. We are reporting on 39-PAK* and 40-PAK* which were terminated before the Special Project Department was established only because all the files have since been tranferred to us from the Agriculture Projects Department. Please note that the Brahmaputra Flood Embankment Project was completed one month before the begining of the reporting period.

For Loan 39-PAK* the actual foreign cost component was assumed to be the same as that stated on the Appraisal report. No record of actual local cost component was available for any of the above projects and the figures on the Appraisal reports were used. For Loan 40-PAK* Chandpur I project, information was obtained from the Appraisal report on Chandpur II (Loan 184-PAK*) project.

KDKikuchi:yhk
cc: Messrs. Picciotto, Gyamfi, Kikuchi, Blout (Agriculture Projects)

1. Explanation for Table 1 - Completion Time

39-PAK* Pakistan Brahmaputra Flood Embankment Project

Project features modified by project consultants.
Delays occurred in obtaining local financing.

40-PAK* Pakistan Chandpur I Flood Protection, Drainage & Irrigation Project

Land for irrigation canals could not be acquired.
Project was modified in 1965.
Project work was halted in 1967 and a new feasibility study commenced shortly thereafter.

S8-PAK* Pakistan Dacca Southwest Irrigation Engineering

Delay in completing consultant report.

2. Explanations for Table 2 - Project Costs

40-PAK* Pakistan Chandpur I Flood Protection, Drainage & Irrigation Project

Land could not be acquired for irrigation system.
Civil works cost escalated.
Original project revised in 1965.
New feasibility study started in 1968, remainder of project carried over to Chandpur II, Irrigation Project (184-PAK*).

Table 1

COMPLETION TIME OF IDA PROJECTS

Projects Completed During Period July 1968 - March 1972

| (1) Type of Project | (2) Number | (3) Loan/Credit Amount (millions US$) Original | (4) Final | (5) Month/Year of Agreement | (6) Month/Year of Completion Estimated | (7) Actual | (8) Completion Time (Months) Estimated (5 to 6) | (9) Variance (6 to 7) | (10) Variance as % of Estimate |
|---|---|---|---|---|---|---|---|---|---|
| **Agriculture** | | | | | | | | | |
| Brahmaputra Flood Embankment | 39-PAK* | 5.0 | - | 6/63 | 6/66 | 6/68 | 36 | 24 | +67 |
| Chandpur I Flood Protection, Drainage & Irrigation | 40-PAK* | 9.0 | 5.2 | 7/63 | 9/66 | 6/67 1/ | 38 | 9 | +24 |
| Dacca Southwest Irrigation Engineering | S8-PAK* | .8 2/ | - | 12/69 | 12/70 | 9/71 | 18 | 9 | +50 |
| WAPDA General Consultants | 136-PAK* | 2.0 3/ | - | 1/69 | 6/71 | 8/71 | 30 | 2 | + 7 |

1/ Last closing date April 1970 and last disbursement December 1970. for consultant services only.
2/ Disbursements suspended due to civil war. $741,000 disbursed as of 12/71, additional billing for $38,000 is outstanding.
3/ $2.0 million has been disbursed; final amount being negotiated.

May 2, 1972

Table 2

PROJECT COST OF IDA PROJECTS

Projects Completed During Period July 1968 - March 1972

| (1) Type of Project | (2) Number | (3) Loan/Credit Amount Original (in US$ millions) | (4) Loan/Credit Amount Final (in US$ millions) | (5) Month/Year of Agreement | (6) Estimated Cost Foreign Component (in US$ millions) | (7) Estimated Cost Local Component (in US$ millions) | (8) Estimated Cost Total (in US$ millions) | (9) Exchange Rate Rupees/US$ | (10) Actual Cost Foreign Component (in US$ millions) | (11) Actual Cost Local Component (in US$ millions) | (12) Actual Cost Total (in US$ millions) | (13) Exchange Rate Rupees/US$ | (14) Variance As % of Estimate Foreign | (15) Variance As % of Estimate Local | (16) Variance As % of Estimate Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brahmaputra Flood Embankment | 39-PAK* | 5.0 | - | 6/63 | 1.7 | 8.1 | 9.8 | 4.762 | 1.7 | 8.1 | 9.8 | 4.762 | 0 | 0 | 0 |
| Chandpur I Flood Protection, Drainage & Irrigation | 40-PAK* | 9.0 | 5.2 | 7/63 | 3.5 | 14.8 | 18.3 | 4.762 | - | - | 42.0 | 4.762 | | | |
| (revised 1965) | | | | | 5.2 | 19.8 | 25.0 | 4.762 | 5.2 | 5.5 | 10.7 | 4.762 | 0 | -72 | -57 |
| Dacca Southwest Irrigiation Engineering | S8-PAK* | .8 1/ | - | 12/69 | 0.8 | 0.6 | 1.4 | 4.762 | 0.8 | 0.6 | 1.4 | 4.762 | 0 | 0 | 0 |
| WADAPA General Consultants | 136-PAK* | 2.0 2/ | - | 1/69 | 4.0 | 2.6 | 6.6 | 4.762 | 4.0 | 2.6 | 6.6 | 4.762 | 0 | 0 | 0 |

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2/ $2.0 million has been disbursed; final amount being negotiated.

Appraisal Cost + Proj.

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

# OFFICE MEMORANDUM

TO: Mr. R.H.S. Fennell

DATE: May 3, 1972

FROM: R. Gomez

SUBJECT: An Analysis of the Project Appraisal Cycle

As you know I have been working for some time in collecting and assembling data which could be used for analyzing the appraisal stage of the project cycle.

The attached tables 1 - 3 cover three complete years (FY1969 - FY 1971) of the lending operations. The tables are a slightly modified version of the time elapsed study prepared in late 1970. The main difference is the source used for recording critical events, especially initiation; previously, terms of reference, back-to-office reports, etc. were used to trace the development of a project. This time the data were extracted from appraisal reports. Also, I have included dates of the critical events and have expanded the information regarding the appraisal process.

This study, as you will recall, was provoked by Mr. Blaxall's memorandum dated November 15, 1971 (attached), on elapsed time. He indicated that the median processing time (from departure of the appraisal mission to Board presentation) for all projects had increased in FY1971 to 9.5 months, after falling from 11 months in FY1969 to 9 months in FY70. As far as this Department's experience is concerned, records indicate that project processing time decreased from approximately 10 months in FY1969 and FY1970 to 9 months in FY1971. The following table gives a breakdown of time elapsed (in approximate months) between main events in the appraisal process.

| | Size of Sample | Appraisal to Yellow | | | Yellow to Green | | | Green to Start of Negs. | | | Start of Negs. to Board | | | Total Time | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | LQ | M | UQ | LQ | M | UQ | LQ | M | UQ | LQ | M | UQ | LQ | M | UQ |
| FY69 | 10 | 4 | 5 | 6 | 1 | 1 | 3 | 1 | 2 | 3 | 1 | 2 | 4 | 7 | 10 | 16 |
| FY70 | 11 | 4 | 5 | 6 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 3 | 7 | 10 | 12 |
| FY71 | 14 | 4 | 5 | 6 | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 2 | 7 | 9 | 13 |

The above data indicate that the elapsed median time from departure of appraisal mission to completion of yellow cover report has remained unchanged for the last three years. This is 1 month more than the "standard" time (4 months) allotted for this phase in the timetables. Of the 35 projects reviewed 12 yellow cover reports (see table 4a) were completed in 3 to 4 months time, 11 in 5 months (median time) and the remaining 12 in more than 5 months. A preliminary review indicates that there are no correlations between time taken for the completion of the yellow cover report and such factors as the number of institutions

included in the project, experience of mission chiefs (although all of Mr. Lethem's projects took less than 5 months; Mr. Pennisi's too* appear to take less than the median time), repeater projects (second projects) or size of missions. You will note that each category of projects, as separated in table 4, contains a sample of projects whose characteristics are not dissimilar. It is obvious that the time taken for the completion of appraisal report etc. is determined by a combination of various factors which are not easily discernible. However, as a start I attempted to look for some reasons for delays concerning completion of yellow cover reports listed in 4c. A survey of timetables, progress or operations reports, minutes on slippage meetings etc. indicate that of the 12 late yellow covers, 4 can be attributed to delays caused by government, 3 to extensive revisions of white drafts, 3 to other staff commitments, 1 to inexperience of the appraisal team, and 1 to consultant. You will note that with the exception of 2 projects (Colombia and Chile) listed in 4 c, delay in completion of yellow cover reports resulted in total processing time (appraisal to Board) to exceed the median time (10 months of FY69-FY71). The following table summarizes number of delays caused at various steps in the appraisal cycle.

| | |
|---|---|
| No. of projects which exceeded 10 months | 21 |
| -of which caused by internal delays (white to yellow i.e. exceeding 5 months) | 8 |
| -of which caused by delays in production of green cover | 5 |
| -of which caused by delays in start of negotiation, approval of loan documents etc. | 8 |

A rough calculation shows that about 25% of the delays were caused by time taken to produce reports (diverted by other staff commitments, due to extensive revisions etc.) and 75% by factors not under our control. It would be interesting to know if the delayed projects were, for instance in countries where (a) education is usually of minor interest, (b) the Ministry of education does not have the competence or understanding of problems, etc. I think the insistence on predicting loan signing and other events to the month for such projects creates a false sense of accuracy in the planning; calender quarters would seem to be more appropriate dates for these events. I think we can then get away from that unrealistic "norm" of 9 months, we seemed to have created for the completion of the appraisal process. Again, must the appraisal process be strictly defined from departure of appraisal mission to Board? Mr. Koulourianos has implied, regarding his experience with Iran, that there might be a saving in money if the appraisal schedule was geared to project implemention.

A feeling I have is that given the present procedures for processing appraisal report, I doubt if more time can be saved from the appraisal date to loan signing; a large but sometimes overlooked time consumer is the mechanical process of typing, proofing, stencilling, printing and distributing half a dozen or more editions of a report. The main opportunity for time-saving now is to streamline the process itself. It seems incongruous to take the same amount of time processing say a $1 million project as for a $30 million dollar multi-facet project.

* C.A.R & Malaysia

This is a preliminary analysis of the appraisal process, more as a report to inform you of the progress made. You mentioned about comparing manpower input for each project; I suggest that since the end of FY72 we will have a good record for two fiscal years, this aspect of the study should wait printouts of the TRS system about mid-July 1972.

cc: Mr. Calika

Development of Education Projects FY69-FY71

4(a) Completion of Yellow Cover reports within 4 months

| | | Project Content | | | Mission Composition | | | | No. of Previous Missions Led By Staff Member | Time elapsed (approx. months) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FY | Project | No. of Institutions | No of Items[1/] | Size of Mission | Bk | Cons | UNESCO/ FAO/ILO | Mission Chief | | Departure of Mission to Completion of Yellow Cover | Appraisal to Board |
| 70 | Cameroon | 24 | 5 | 5 | 2 | 2 | 1 | Germanacos | 1 | 3 | 8 |
| 69 | Guyana | 8 | 4 | 4 | 3 | 1 | - | Lethem | - | 3 | 6 |
| 71 | Somalia | 23 | 5 | 5 | 2 | 1 | 2 | Pennisi | - | 3 | 9 |
| 70 | Spain | 47 | 5 | 5 | 3 | 2 | - | Lethem | 2 | 3 | 8 |
| [illegible] | Zambia II* | 4 | 2 | 4 | 2 | 2 | - | van Dijk | 2 | 3 | 7 |
| 70 | Colombia | 9 | 3 | 5 | 2 | 2 | 1 | Thint | - | 4 | 12 |
| 71 | Dominican Rep. | 17 | 4 | 4 | 2 | 2 | - | Koulourianos | 1 | 4 | 7 |
| 71 | Greece | 5 | 2 | 4 | 3 | - | 1 | Byron | - | 4 | 15 |
| 69 | Guatemala | 17 | 3 | 5 | 2 | 1 | 2 | Adamson | - | 4 | 11 |
| 70 | Ivory Coast | 11 | 4 | 6 | 3 | 2 | 1 | Lethem | 1 | 4 | 13 |
| 69 | Korea | 33 | 6 | 6 | 4 | 1 | 1 | McMahon | 5 | 4 | 14 |
| 70 | Pakistan IV* | 2 | 3 | 4 | 2 | 2 | - | Braithwaite | - | 4 | 8 |
| [illegible] | Tanzania* | 13 | 3 | 4 | 3 | 1 | - | Gayle | - | 4 | 10 |

* Repeater

1/ As listed under project discription in L/C agreements.

## 4(b) Completion of Yellow Cover Reports within median time - 5 months

| Project | Project Content: No. of Institutions | Project Content: No. of Items | Project Content: Size of Mission 1/ | Mission Composition: Bk | Mission Composition: Cons | Mission Composition: UNESCO/ FAO/ILO | Mission Chief | No. of Previous Missions Led By Staff Member | Time elapsed (approx months): Departure of Mission to Completion of Yellow Cover | Time elapsed (approx months): Appraisal to Board |
|---|---|---|---|---|---|---|---|---|---|---|
| China | 6 | 5 | 5 | 4 | 1 | - | Bahr | 1 | 5 | 9 |
| El Salvador | 29 | 6 | 6 | 4 | 1 | 1 | Hultin | 1 | 5 | 29 |
| Indonesia | 5 | 3 | 4 | 3 | - | 1 | van der Wal | - | 5 | 8 |
| Iran | 40 | 7 | 5 | 3 | 1 | 1 | Koulourianos | - | 5 | 11 |
| Malaysia | 21 | 3 | 5 | 4 | 1 | - | McMahon | 4 | 5 | 22 |
| Senegal | 4 | 3 | 6 | 2 | 2 | 2 | Cherniavsky | 1 | 5 | 9 |
| Tanzania II* | 25 | 4 | 4 | 4 | - | - | McMahon | 3 | 5 | 12 |
| Trinidad | 23 | 4 | 5 | 4 | - | 1 | Stewart | 3 | 5 | 10 |
| Turkey | 52 | 7 | 7 | 3 | 2 | 2 | Sung | 1 | 5 | 8 |
| Zambia | 70 | 2 | 4 | 2 | 2 | - | van Dijk | 1 | 5 | 12 |

*Repeater

1/ As listed under project discription in L/C agreements.

## 4(c) Completion of Yellow Cover Reports ranging from 6 months to 43 months

| Project | Project Content: No. of Institutions | Project Content: No. of Items[1/] | Project Content: Size of Mission | Mission Composition: Bk | Mission Composition: Cons | Mission Composition: UNESCO/ FAO/ILO | Mission Chief | No. of Previous Missions Led By Staff Member | Time elapsed (approx months): Departure of Mission to Completion of Yellow Cover | Time elapsed (approx months): Appraisal to Board |
|---|---|---|---|---|---|---|---|---|---|---|
| Chile II* | 39 | 7 | 5 | 4 | 1 | - | van Dijk | 2 | 6 | 17 |
| Chile III* | 22 | 3 | 4 | 3 | 1 | - | Bahr | - | 6 | 10 |
| Colombia | 10 | 3 | 5 | 4 | - | 1 | Hultin | 3 | 6 | 9 |
| Uganda* | 39 | 1 | 6 | 5 | 1 | - | Brewin | - | 6 | 13 |
| Congo(B) | 5 | 5 | 5 | 2 | 2 | 1 | Bahr | 2 | 7 | 12 |
| Ethiopia II* | 66 | 6 | 5 | 3 | 1 | 1 | Markgren | - | 7 | 13 |
| Jamaica II* | 45 | 4 | 6 | 4 | 2 | - | Sung | - | 7 | 11 |
| Brazil | 16 | 4 | 5 | 3 | 2 | - | Cherniavsky | - | 10 | 13 |
| Chad I | 2 | 3 | 4 | 3 | - | - | Blakey | - | 11 | 15 |
| ChadII* | 15 | 3 | 3 | 2 | 1 | - | Germanacos | 2 | 15 | 19 |
| Sierra Leone | 16 | 7 | 5 | 3 | 1 | 1 | McMahon | 1 | 43 | 49 |
| Kenya* | 30 | 7 | 6 | 5 | 1 | - | Hultin | 3 | 9 | 16 |

*Repeater

1/ As listed under project discription in L/C agreements.

Table 1

## Time Elapsed (in approximate months) in the Development of Education Projects approved by the Board - FY1969

| | Initiation | | | | | | | Total Time Elapsed | |
|---|---|---|---|---|---|---|---|---|---|
| | Rec., Econ., etc. | Identification | Preparation | Appraisal | Yellow | Green | Negotiation | Board | Appraisal to Board | Initiation to Board |
| Chad | | U - 12/65 | U - 11/66 | B - 5/67 | 4/68 | 5/68 | 6/68 | 8/68 | | |
| | | x----------11------(11)-----6-----(17)-----11-----(28)-----1-----(29)-----1-----(30)-----2----------(32) | | | | | | | | |
| | | | | x----------(15) | | | | | | |
| Colombia | B/U - 2/67 | | U - 4/67 | B - 11/67 | 5/68 | 6/68 | 6/68 | 7/68 | | |
| | x----------2-------(2)------7-----(9)------6------(15)-----1-----(16)----1------(16)-----1----------(17) | | | | | | | | | |
| | | | | x----------(9) | | | | | | |
| El Salvador | B/U - 11/65 | | B/U - 12/66 | B - 12/66 | 4/67 | 5/68 | 12/68 | 4/69 | | |
| | x----------11--------(11)----1-----(12)-----5------(17)----13-----(30)----7------(37)-----4----------(41) | | | | | | | | | |
| | | | | x----------(29) | | | | | | |
| Guatemala | | | U - 4/67 | B - 1/68 | 5/68 | 6/68 | 9/68 | 12/68 | | |
| | | | x----------10----(10)-----4------(14)-----1-----(15)----3------(18)-----3----------(21) | | | | | | | |
| | | | | x----------(11) | | | | | | |
| Guyana | B/U - 6/67 | | U - 3/68 | B - 7/68 | 10/68 | 11/68 | 12/68 | 1/69 | | |
| | x----------9--------(9)------4----(13)-----3------(16)-----1-----(17)----1------(18)-----1----------(19) | | | | | | | | | |
| | | | | x----------(6) | | | | | | |
| Korea | B/U - 3/68 | 6/68 | U - 7/68 | B - 10/68 | 2/69 | 3/69 | 4/69 | 5/69 | | |
| | x----------3----(3)------1---------(4)------3-----(7)-----4------(11)-----1-----(12)----1------(13)-----1----------(14) | | | | | | | | | |
| | | | | x----------(7) | | | | | | |
| Malaysia | | | U - 11/66 | B - 8/67 | 1/68 | 4/69 | 4/69 | 5/69 | | |
| | | | x----------8------(8)-----5------(13)-----15----(28)----1------(29)-----1----------(30) | | | | | | | |
| | | | | x----------(22) | | | | | | |
| Tanzania | B - 9/67 | | | B - 5/68 | 10/68 | 10/68 | 11/68 | 4/69 | | |
| | x----------8------(8)-----5------(13)------1-----(14)----1-----(15)-----5----------(20) | | | | | | | | | |
| | | | | x----------(12) | | | | | | |
| Trinidad | | | U - 7/67 | B - 12/67 | 6/68 | 7/68 | 8/68 | 10/68 | | |
| | | | x----------5------(5)-----6------(11)-------1-----(12)----1-----(13)-----2----------(15) | | | | | | | |
| | | | | x----------(10) | | | | | | |
| Zambia | | U - 3/66 | U - 3/68 | B - 4/68 | 9/68 | 12/68 | 2/69 | 4/69 | | |
| | | x----------24------(24)------1-----(25)-----5------(30)-------3-----(33)----2-----(35)-----2----------(37) | | | | | | | | |
| | | | | x----------(12) | | | | | | |

Table 2

**Time Elapsed (in approximate months between missions) in the Development of Education Projects approved by the Board in FY 1970**

| | Initiation | | | Appraisal | Yellow | Green | Negotiation | Board | Total Time Elapsed | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Rec. Econ., etc. | Identification | Preparation | | | | | | Appraisal to Board | Initiation to Board |
| Cameroon | B/U/F 5/68 | | U 11/68 | B 1/69 | 4/69 | 5/69 | 6/69 | 9/69 | | |
| | x----------6-----(6)--------2--------(8)-----3-----(11)----1-----(12)-----1-----(13)-----3 | | | | | | | | | (16) |
| | x | | | | | | | | | (8) |
| Chile III | | | | B 5/69 | 11/69 | 12/69 | 1/70 | 3/70 | | |
| | x----------6-----(6)----1------(7)------1------(8)-----2 | | | | | | | | | (10) |
| | x | | | | | | | | | (10) |
| Chile III* | | U 7/67 | U 6/68 | B 10/68* | 4/69 | 5/69 | 6/69 | 3/70 | | |
| | x----------11-----(11)--------4--------(15)----5----(21)----1------(22)-----1-----(23)-----9 | | | | | | | | | (32) |
| | x | | | | | | | | | (17) |
| China | | U 1/69 | U 5/69 | B 9/69 | 2/70 | 3/70 | 4/70 | 6/70 | | |
| | x----------10----------4-----(14)------4---------(18)-----5---(23)----1-----(24)-----1-----(25)-----2 | | | | | | | | | (27) |
| | x | | | | | | | | | (9) |
| Colombia II | | | | B 5/69 | 9/69 | 12/69 | 2/70 | 5/70 | | |
| | x----------4-----(4)----3------(7)------2------(9)-----3 | | | | | | | | | (12) |
| | x | | | | | | | | | (12) |
| Ivory Coast | B/U/F 1/67 | B/U 5/68 | U 11/68 | B 2/69 | 6/69 | 8/69 | 9/69 | 3/70 | | |
| | x----------17-----(17)----------9-------(26)----4-----(30)----2----(32)------1-----(33)----6 | | | | | | | | | (39) |
| | x | | | | | | | | | (13) |
| Kenya II | | | F/B 9/68 | B 1/69 | 10/69 | 12/69 | 2/70 | 5/70 | | |
| | x----------4-------(4)-----9-----(13)----2----(15)------2------(17)---3 | | | | | | | | | (20) |
| | x | | | | | | | | | (16) |
| Pakistan IV | B 6/69 | | | B 11/69 | 3/70 | 4/70 | 4/70 | 6/70 | | |
| | x----------5-------(5)----4------(9)----1-----(10)------1------(11)---2 | | | | | | | | | (13) |
| | x | | | | | | | | | (8) |
| Sierra Leone | | F 2/65 | U 6/65 | B 1/66* | 8/69 | 10/69 | 10/69 | 1/70 | | |
| | x----------4------(4)--------7------(11)----43-----(54)---2-----(56)-----1------(57)----3 | | | | | | | | | (60) |
| | x | | | | | | | | | (49) |
| Spain | B/U/F 10/68 | | U 6/69 | B 10/69 | 1/70 | 2/70 | 3/70 | 6/70 | | |
| | x----------7-------(7)--------4------(11)-----3-----(14)---1-----(15)-----1------(16)----3 | | | | | | | | | (19) |
| | x | | | | | | | | | (8) |
| Zambia | | | U 3/68 | B 4/69 | 7/69 | 9/69 | 10/69 | 11/69 | | |
| | x----------13-----(13)-----3-----(16)----2------(18)----1-----(19)-----1 | | | | | | | | | (20) |
| | x | | | | | | | | | (7) |

* First appraisal mission

Table 3

## Time Elapsed (in approximate months between missions) in the Development of Education Projects Approved by the Board in FY 1971

| | Initiation | | | | | | | | Total Time Elapsed | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Rec., Econ., etc. | Identification | Preparation | Appraisal | Yellow | Green | Negotiation | Board | Apprais to Board | Initiation to Board |
| Brazil | | B/U/F-6/68 | U -9/69 | B - 2/70 | 12/70 | 1/71 | 2/71 | 3/71 | | |
| | | x----------15--------(15)------5------(20)----10-----(30)------1------(31)-----1-----(32)----------1----------(33) | | | | | | | | |
| | | | | x----------(13) | | | | | | |
| Chad II | U -2/68 | | | B - 9/69 * | 12/70 | 1/71 | 3/71 | 4/71 | | |
| | x----------19-----(19)----15------(34)-----1------(35)-----2-----(37)----------1----------(38) | | | | | | | | | |
| | | | | x----------(19) | | | | | | |
| Congo (B) | B -1/68 | U - 1/69 | U - 10/69 | B - 3/70 | 10/70 | 11/70 | 12/70 | 3/71 | | |
| | x----------12----------9--------(21)-----5------(26)------7------(33)-----1------(34)-----1------(35)---------3----------(38) | | | | | | | | | |
| | | | | x----------(12) | | | | | | |
| Dominican Republic | | B/U - 6/69 | U - 11/69 | B - 4/70 | 8/70 | 9/70 | 10/70 | 11/70 | | |
| | | x----------5---------(5)------5------(10)------4------(14)-----1------(15)-----1------(16)---------1----------(17) | | | | | | | | |
| | | | | x----------(7) | | | | | | |
| Ethiopia II | | | U - 12/68 | B - 2/70 | 9/70 | 12/70 | 1/71 | 3/71 | | |
| | | | x----------14------(14)------7------(21)-----3------(24)-----1------(25)---------2----------(27) | | | | | | | |
| | | | | x----------(13) | | | | | | |
| Greece | B/U - 2/67 | | U/F - 4/69 | B - 8/69 | 12/69 | 1/70 | 9/70 | 11/70 | | |
| | x----------26---------(26)-----4------(30)------4------(34)-----1------(35)-----8------(43)---------2----------(45) | | | | | | | | | |
| | | | | x----------(15) | | | | | | |
| Indonesia | B - 1/69 | B - 6/69 | U - 11/69 | B - 2/70 | 7/70 | 8/70 | 9/70 | 10/70 | | |
| | x----------5-------(5)-------5---------(10)-----3------(13)------5------(18)-----1------(19)-----1------(20)---------1----------(21) | | | | | | | | | |
| | | | | x----------(8) | | | | | | |
| Iran | | U - 9/68 | U - 9/69 | B - 11/69 | 4/70 | 6/70 | 9/70 | 10/70 | | |
| | | x----------12--------(12)-----2------(14)------5------(19)-----2------(21)-----3------(24)---------1----------(25) | | | | | | | | |
| | | | | x----------(11) | | | | | | |
| Jamaica II | | | | B - 4/70 | 11/70 | 12/70 | 1/71 | 3/71 | | |
| | | | | x----------7------(7)------1------(8)-----1------(9)---------2----------(11) | | | | | | |
| | | | | x----------(11) | | | | | | |
| Senegal | | U - 5/69 | U - 2/70 | B - 9/70 | 2/71 | 4/71 | 5/71 | 6/71 | | |
| | | x----------9---------(9)------7------(16)------5------(21)-----2------(23)-----1------(24)---------1----------(25) | | | | | | | | |
| | | | | x----------(9) | | | | | | |
| Somalia | | U - 5/69 | U - 4/70 | B - 8/70 | 11/70 | 12/70 | 3/71 | 5/71 | | |
| | | x----------11--------(11)-----4------(15)------3------(18)-----1------(19)-----3------(22)---------2----------(24) | | | | | | | | |
| | | | | x----------(9) | | | | | | |
| Tanzania III | | | B/F - 5/69 | B - 2/70 | 6/70 | 7/70 | 8/70 | 2/71 | | |
| | | | x----------9------(9)------4------(13)-----1------(14)-----1------(15)---------6----------(21) | | | | | | | |
| | | | | x----------(12) | | | | | | |
| Turkey | | U - 7/69 | U - 7/70 | B - 9/70 | 2/71 | 3/71 | 4/71 | 5/71 | | |
| | | x----------12--------(12)-----2------(14)------5------(19)-----1------(20)-----1------(21)---------1----------(22) | | | | | | | | |
| | | | | x----------(8) | | | | | | |
| Uganda II | | U - 2/69 | U - 1/70 | B - 5/70 | 11/70 | 12/70 | 3/71 | 6/71 | | |
| | | x----------11--------(11)-----4------(15)------6------(21)-----1------(22)-----3------(25)---------3----------(28) | | | | | | | | |
| | | | | x----------(13) | | | | | | |

* First appraisal

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

# OFFICE MEMORANDUM

TO: Mr. Bernard Chadenet

DATE: October 15, 1971

FROM: John Blaxall

cc: DSB
OHC
RHSF
Div. Chiefs
Advisers

SUBJECT: Time Elapsed Processing Lending Operations, FY69-71

1. As you know, we have been working for some time on an analysis of project processing experience in FY71. For a variety of reasons we have not finished as quickly as we had hoped. In the meantime, however, you may find it useful to have the basic data tableswe have assembled.

2. The attached tables cover three complete years of lending operations. You will note that in FY71 the average processing time increased to 9-1/2 months, after falling from 11 months in FY69 to 9 months in FY70. The median processing time, in many ways a more meaningful indicator since it is not so subject to distortion by extreme values, also increased again to 8-1/2 months after it had fallen from roughly 9-1/2 months in FY69 to 8 months in FY70. As in previous analyses, the time elapsed figures for projects brought to the Board in FY71 are from departure of the first appraisal mission to Board presentation. Three FY71 projects were excluded from the sample as their processing data were not comparable: Guinea - Boke Extension, Indonesia - Technical Assistance, and Nigeria - Rehabilitation Program Loan. The following table, which compares FY71 processing time with that of FY69 and FY70 confirms the overall impression that project processing in FY71 took longer than in FY70, particularly for projects in the upper quartile--those taking the largest time to process.

Project Processing Time in Months

| | Size of Sample | Lower Quartile | Median | Upper Quartile |
|---|---|---|---|---|
| FY69 | 105 | 7.2 | 9.6 | 13.1 |
| FY70 | 117 | 6.3 | 8.0 | 10.5 |
| FY71 | 126 | 6.8 | 8.5 | 11.7 |

3. The tables also present processing time by region and by sector, and the data we produced earlier describing FY69 and FY70 are included for your convenience. We are continuing to study these statistics and other information we have garnered in the course of this study, and hope to send you a paper within the next two or three weeks.

Attachments
cc: Mr. Aldewereld
Mr. Cope/Mr. Williams

MGillette:omc

FY71 Time Elapsed in Days
Between Departure of First Appraisal Mission
and Board Presentation

| | Lower Quartile | Median | Upper Quartile |
|---|---|---|---|
| TOTAL - Departure of Appraisal Mission to Board Presentation | 205 | 255 | 351 |
| Appraisal Mission in Field | 21 | 27 | 34 |
| Return of Mission to Yellow Cover | 71 | 98 | 122 |
| Yellow Cover to Green Cover | 15 | 24 | 35 |
| Green Cover to Invitation | 13 | 20 | 38 |
| Invitation to Start Negotiations | 4 | 10 | 22 |
| (Start Negotiations to Agreement) | (14) | (28) | (49) |
| Start Negotiations to Board Presentation | 37 | 49 | 76 |
| Sum of Stages | 161 | 228 | 327 |
| Size of Sample | - | 126 1/ | - |

1/ Projects excluded: Nigeria - Rehabilitation Program Loan
Guinea - Boke Extension
Indonesia - Technical Assistance II

Average time for processing a project: 287 days

FY71 Time Elapsed in Days between the Departure of the First Appraisal Mission to Board Presentation

Distribution by Area

| | Size of Sample | Lower Quartile | Median | Upper Quartile |
|---|---|---|---|---|
| South America | 17 | 187 | 323 | 470 |
| Eastern Africa | 17 | 237 | 323 | 406 |
| EMENA | 29 | 225 | 268 | 428 |
| South Asia | 14 | 160 | 265 | 351 |
| Western Africa | 16 | 220 | 261 | 393 |
| East Asia & Pacific | 21 | 198 | 225 | 265 |
| Central Am. & Carib. | 12 | 187 | 218 | 230 |
| Overall FY71 Program | 126 | 205 | 255 | 351 |

FY71 Time Elapsed in Days
of the Stages in Project Processing
from the Departure of the First Appraisal Mission
to Board Presentation

(Upper Quartile - Median - Lower Quartile)

| | Eastern Africa | Western Africa | East Asia & Pacific | South Asia |
|---|---|---|---|---|
| TOTAL | 406-323-237 | 393-261-220 | 265-225-198 | 351-265-180 |
| Appraisal Mission in Field | 33- 27- 21 | 30- 27- 17 | 35- 28- 20 | 48- 35- 21 |
| Return of Mission - Yellow Cover | 158-113- 86 | 127-108- 70 | 113- 90- 81 | 116- 79- 61 |
| Yellow-Green Cover | 36- 23- 15 | 78- 30- 15 | 33- 21- 13 | 31- 21- 14 |
| Green - Invitation | 52- 27- 12 | 27- 16- 9 | 41- 20- 10 | 41- 23- 10 |
| Invitation - Start Negotiations | 24- 10- 7 | 31- 12- 6 | 26- 14- 9 | 39- 16- 2 |
| (Start Negotiation-Agreement) | (63- 58- 24) | (38- 30- 4) | (28- 18- 7) | (42- 14- 4) |
| Start Negotiation - Board Presentation | 99- 77- 41 | 91- 57- 36 | 60- 44- 36 | 42- 38- 30 |
| Sum of Stages | 402-277-182 | 384-250-153 | 308-217-169 | 317-212-138 |
| Size of Sample | 17 | 16 | 21 | 14 |

| | Europe Middle East & North Africa | Central America & Caribbean | South America | Western Hemisphere |
|---|---|---|---|---|
| TOTAL | 428-268-225 | 230-216-187 | 470-323-187 | 402-230-187 |
| Appraisal Mission in Field | 35- 30- 20 | 28- 22- 17 | 55- 27- 19 | 35- 24- 19 |
| Return of Mission - Yellow Cover | 130-116- 74 | 111- 94- 69 | 156-101- 65 | 124- 98- 69 |
| Yellow - Green Cover | 39- 27- 21 | 35- 25- 20 | 37- 28- 16 | 37- 27- 16 |
| Green - Invitation | 55- 30- 16 | 32- 15- 11 | 97- 16- 13 | 61- 15- 13 |
| Invitation - Start Negotiations | 19- 10- 4 | 5- 3- 3 | 21- 7- 2 | 10- 4- 2 |
| (Start Negotiation- Agreement) | (68- 31- 21) | (38- 22- 15) | (101- 45- 19) | (77- 35- 19) |
| Start Negotiation - Board Presentation | 90- 49- 43 | 53- 43- 34 | 127- 74- 39 | 104- 53- 35 |
| Sum of Stages | 368-262-178 | 264-210-154 | 493-252-154 | 371-221-154 |
| Size of Sample | 29 | 12 | 17 | 29 |

FY71 Time Elapsed in Days
of Stages in Project Processing
from the Departure of the First Appraisal Mission
to Board Presentation

Distribution by Sector

(Upper Quartile - Median - Lower Quartile)

| | Agric. General | Agric. Industries | Agric. Irrigation |
|---|---|---|---|
| TOTAL | 351-322-231 | 697-351-243 | 287-225-208 |
| Appraisal Mission in Field | 34- 24- 21 | 38- 37- 24 | 40- 35- 27 |
| Return of Mission-Yellow Cover | 174-122- 90 | 324-143-103 | 113- 94- 63 |
| Yellow-Green Cover | 30- 24- 15 | 54- 44- 12 | 28- 25- 21 |
| Green- Invitation | 27- 14- 9 | 57- 38- 0 | 86- 22- 14 |
| Invitation-Start Negotiations | 28- 14- 7 | 39- 33- 6 | 14- 6- 0 |
| (Start Negotiation-Agreement) | ( 65- 32- 11) | (176- 34- 7) | (31- 28- 9) |
| Start Negotiation-Board Presentation | 106- 57- 39 | 195- 71- 42 | 61- 36- 22 |
| Sum of Stages | 399-256-181 | 707-366-187 | 342-218-147 |
| Size of Sample | 12 | 4 | 4 |

| | Livestock | Agric. Credit | DFC |
|---|---|---|---|
| TOTAL | 519-284-197 | 348-273-190 | 483-246-161 |
| Appraisal Mission in Field | 38- 33- 22 | 49- 28- 22 | 41- 23- 17 |
| Return of Mission-Yellow Cover | 102- 85- 42 | 195-107- 78 | 96- 56- 35 |
| Yellow-Green Cover | 39- 27- 16 | 30- 21- 13 | 55- 27- 13 |
| Green-Invitation | 167- 38- 14 | 68- 35- 13 | 65- 27- 16 |
| Invitation-Start Negotiations | 40- 8- 3 | 18- 6- 2 | 30- 26- 2 |
| (Start Negotiation-Agreement) | ( 96- 31- 19) | ( 19- 4- 0) | (144- 44- 25) |
| Start Negotiation-Board Presentation | 148- 53- 35 | 44- 35- 28 | 153- 90- 40 |
| Sum of Stages | 534-244-132 | 404-232-156 | 441-249-123 |
| Size of Sample | 10 | 5 | 10 |

FY71 Time Elapsed in Days
of the Stages in Project Processing
from the Departure of the First Appraisal Mission
to Board Presentation

(Upper Quartile - Median - Lower Quartile)

| | Power | Telecom. | Water Supply |
|---|---|---|---|
| TOTAL | 393-255-177 | 463-232-160 | 437-355-237 |
| Appraisal Mission in Field | 36- 30- 21 | 69- 28- 20 | 55- 36- 26 |
| Return of Mission - Yellow Cover | 182- 83- 66 | 113- 94- 62 | 151-123- 86 |
| Yellow-Green Cover | 24- 17- 14 | 22- 14- 0 | 45- 31- 16 |
| Green - Invitation | 20- 13- 10 | 43- 23- 6 | 197 53- 13 |
| Invitation - Start Negotiations | 19- 8- 3 | 16- 7- 3 | 24- 11- 3 |
| (Start Negotiation-Agreement) | (58- 26- 11) | (151- 27- 7) | (62- 59- 34) |
| Start Negotiation - Board Presentation | 88- 43- 36 | 284- 64- 36 | 90- 74- 49 |
| Sum of Stages | 369-194 150 | 547-230-127 | 562-328-193 |
| Size of Sample | 18 | 6 | 8 |

| | Education | Highways | Railways | Ports |
|---|---|---|---|---|
| TOTAL | 402-355-261 | 361-246-214 | 323-256-177 | 263-208-159 |
| Appraisal Mission in Field | 35- 31- 27 | 30- 25- 18 | 40- 35- 22 | 19- 18- 8 |
| Return of Mission - Yellow Cover | 158-137-103 | 118- 98- 68 | 116- 80- 67 | 103- 85- 61 |
| Yellow-Green Cover | 55- 35- 23 | 38- 28- 13 | 28- 24- 13 | 33- 16- 11 |
| Green - Invitation | 44 28- 11 | 50 20- 10 | 97- 17- 4 | 71- 17- 8 |
| Invitation - Start Negotiations | 22- 18- 11 | 25- 12- 7 | 24- 9- 2 | 63- 7- 0 |
| (Start Negotiation-Agreement) | (60- 28- 15) | (49- 37- 14) | (77- 45- 18) | (38- 14- 7) |
| Start Negotiation - Board Presentation | 78- 49- 38 | 104- 56- 40 | 104- 44- 40 | 56- 36- 33 |
| Sum of Stages | 380-298-218 | 365-239-156 | 409-209-148 | 345-179-121 |
| Size of Sample | 14 | 18 | 4 | 5 |

## PROJECT PROCESSING TIMES IN MONTHS, FYs 1969 and 1970

(From Departure of First Appraisal Mission through Board Presentation)

| | FY 1969 | | | | FY 1970 | | | | FYs 1969 & 1970 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Size of Sample | Lower Quartile | Median | Upper Quartile | Size of Sample | Lower Quartile | Median | Upper Quartile | Size of Sample | Lower Quartile | Median | Upper Quartile |
| **ctor** | | | | | | | | | | | | |
| riculture | 27 | 8.1 | 11.5 | 15.3 | 31 | 7.5 | 10.3 | 12.2 | 58 | 7.8 | 10.5 | 13.4 |
| en. & Ag. Ind. | 10 | 12.3 | 13.9 | 15.1 | 11 | 7.8 | 11.7 | 12.1 | 21 | 8.5 | 12.2 | 14.3 |
| rrigation | 6 | 6.0 | 8.9 | 15.9 | 9 | 8.2 | 9.3 | 11.2 | 15 | 7.4 | 9.3 | 11.2 |
| ivestock & Ag. Credit | 11 | 7.8 | 9.2 | 15.3 | 11 | 7.0 | 10.2 | 13.3 | 22 | 7.5 | 9.7 | 13.3 |
| v.Fin.Cos. | 8 | 5.9 | 8.2 | 10.2 | 12 | 5.1 | 8.1 | 9.0 | 20 | 5.3 | 8.2 | 9.4 |
| lucation | 10 | 9.2 | 11.0 | 15.4 | 11 | 7.1 | 8.4 | 13.4 | 21 | 7.4 | 10.6 | 14.4 |
| dustry | - | - | 12.0 | - | 5 | 7.0 | 9.5 | 13.3 | 5 | 7.0 | 9.5 | 13.3 |
| blic Utilities | 26 | 6.0 | 8.4 | 10.3 | 23 | 6.0 | 7.2 | 9.3 | 49 | 6.0 | 7.9 | 9.8 |
| lectric Power | 16 | 5.6 | 7.5 | 9.8 | 14 | 5.7 | 6.8 | 9.0 | 30 | 5.7 | 7.1 | 9.4 |
| lecommunications | 5 | 6.7 | 8.4 | 9.5 | 6 | 6.0 | 7.2 | 9.3 | 11 | 6.0 | 8.4 | 9.3 |
| ater Supply | 5 | 7.9 | 10.3 | 11.7 | 3 | 7.2 | 9.3 | 10.0 | 8 | 8.3 | 9.7 | 10.9 |
| ansportation | 34 | 7.2 | 10.2 | 14.9 | 32 a/ | 6.0 | 7.1 | 8.5 | 66 | 6.3 | 8.. | 11.2 |
| ighways | 24 | 7.5 | 10.2 | 13.1 | 21 | 6.2 | 7.0 | 8.6 | 45 | 6.6 | 8.4 | 11.2 |
| orts & Pipelines | 6 | 9.3 | 15.0 | 19.2 | 6 | 5.8 | 7.2 | 8.3 | 12 | 6.5 | 8.8 | 15.0 |
| ailways | 4 | 6.1 | 6.6 | 8.9 | 4 | 6.5 | 9.2 | 12.6 | 8 | 6.1 | 7.1 | 11.0 |
| **gion** | | | | | | | | | | | | |
| stern Africa | 17 | 8.5 | 11.3 | 14.9 | 16 | 8.0 | 10.1 | 13.2 | 33 | 8.3 | 10.6 | 14.3 |
| stern Africa | 20 | 10.0 | 12.5 | 15.1 | 19 | 6.0 | 7.3 | 9.7 | 39 | 7.2 | 9.7 | 13.8 |
| st Asia & Pacific | 18 | 6.0 | 8.4 | 11.6 | 17 | 6.0 | 7.8 | 11.7 | 35 | 6.0 | 8.1 | 11.6 |
| uth Asia | 13 | 6.7 | 8.9 | 14.6 | 24 | 5.7 | 7.3 | 9.3 | 37 | 6.2 | 7.4 | 9.7 |
| rope, Middle East & North Africa | 13 | 6.5 | 7.8 | 11.9 | 14 | 7.2 | 8.5 | 9.3 | 27 | 6.8 | 8.4 | 10.8 |
| ntral Amer. & Carib. | 10 | 7.6 | 9.7 | 10.6 | 10 | 6.2 | 7.9 | 9.4 | 20 | 6.6 | 8.3 | 10.1 |
| uth America | 14 | 6.1 | 9.1 | 9.2 | 17 | 5.7 | 9.0 | 11.1 | 31 | 5.8 | 9.0 | 10.7 |
| 11 Projects | 105 | 7.2 | 9.6 | 13.1 | 117 | 6.3 | 8.0 | 10.5 | 222 | 6.7 | 8.7 | 11.3 |

a/ Including one project covering several subsectors.

P & S
9/4/70

Appraisal Report of Proj

Mr. David L. Gordon (Through Mr. Powell) May 2, 1972

Vijay K. Chaudhry VKC

Comparison between Bank Appraisal Reports and Similar Reports from other Institutions

1. This is in response to your memorandum on the above subject dated April 25, 1972, addressed to Mr. Powell with the attached memorandum from Mr. Chadenet and an attached Appraisal Report of China Development Corporation (CDC) by the Asian Development Bank (ADB).

2. I have reviewed the above appraisal report and compared it with similar Bank appraisal reports. My findings are given below.

3. The outline or framework of the ADB report is very similar to Bank reports. Within this similar framework, however, the content and presentation of the ADB report is somewhat inferior to Bank reports. The following weaknesses bear this out:

(a) The ADB report is more descriptive and lengthier than Bank reports but contains little additional information. The information on certain items is scattered and sometimes duplicated.

(b) There is insufficient reporting and discussion of the Government's industrial policy vis-a-vis the structure and growth of industry, the taxation policy, export-import duties and incentive schemes if any. As a result, it is difficult to evaluate CDC's present and future role in the development of the industrial sector.

(c) There is no consideration of CDC's role (or absence of it) in mobilizing financial resources from the market.

(d) Although only since recently, the Bank reports do stress the importance of economic evaluation of sub-projects that are appraised by the Development Finance Companies. The ADB report ignores this aspect and does not mention if CDC includes economic evaluation in their project appraisals.

(e) Certain financial ratios relating to CDC's profitability are not evaluated.

4. Over all one gets the impression that the ADB report is less analytical and critical than similar Bank reports. On no one point is the ADB report significantly superior.

cc: Mr. Diamond

VKChaudhry:hh

I agree.

R.H.P. 5/2

Mr. David L. Gordon (Through Mr. Powell) May 2, 1972

Vijay K. Chaudhry

Comparison between Bank Appraisal Reports and Similar Reports from other Institutions

1. This is in response to your memorandum on the above subject dated April 25, 1972, addressed to Mr. Powell with the attached memorandum from Mr. Chadenet and an attached Appraisal Report of China Development Corporation (CDC) by the Asian Development Bank (ADB).

2. I have reviewed the above appraisal report and compared it with similar Bank appraisal reports. My findings are given below.

3. The outline or framework of the ADB report is very similar to Bank reports. Within this similar framework, however, the content and presentation of the ADB report is somewhat inferior to Bank reports. The following weaknesses bear this out:

(a) The ADB report is more descriptive and lengthier than Bank reports but contains little additional information. The information on certain items is scattered and sometimes duplicated.

(b) There is insufficient reporting and discussion of the Government's industrial policy vis-a-vis the structure and growth of industry, the taxation policy, export-import duties and incentive schemes if any. As a result, it is difficult to evaluate CDC's present and future role in the development of the industrial sector.

(c) There is no consideration of CDC's role (or absence of it) in mobilizing financial resources from the market.

(d) Although only since recently, the Bank reports do stress the importance of economic evaluation of sub-projects that are appraised by the Development Finance Companies. The ADB report ignores this aspect and does not mention if CDC includes economic evaluation in their projects appraisals.

(e) Certain financial ratios relating to CDC's profitability are not evaluated.

4. Over all one gets the impression that the ADB report is less analytical and critical than similar Bank reports. On no one point is the ADB report significantly superior.

cc: Mr. Diamond

VKChaudhry:bb

Appraisal & Preparation of Projects

Mr. E. J. Capbert

April 28, 1972

A. J. Carmichael

Information Requested by Mr. McNamara on
Project Costs and Completion Time

As specified in Memorandums dated April 18 and April 21, 1972, from Mr. H. B. Ripman to Heads of Projects Departments, enclosed are Tables 1 and 2 (with Explanations attached) containing the requested information on Ports Division Projects physically completed in FY69 through March 31, 1972.

JPZedalis:ov

Enclosure

TABLE 1

| (1) | (2) | (3) Loan/Credit Amount (million US$) | | (4) | (5) | (6) Month/Year of Completion | | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| of Project | Number | Original | Final | | Month/Year of Agreement | Estimated | Actual | | Completion Estimated (5 to 6) | Time (Months) Variance (6 to 7) | Variance as % of Estimate |
| Construction Equipment | 294-IN | 21.0 | 18.8 | | 8/61 | 9/65 | 7/68 | | 49 | +34 | +70 |
| Construction | 364-NZ | 7.8 | 6.7 | | 11/63 | 12/67 | 7/68 | | 49 | +7 | +14 |
| nd Water Transport | 65-PAK* | 5.3 | 5.2 | | 8/64 | 3/68 | 3/69 | | 43 | +12 | +28 |
| Ext. and Improve- | 437-PA | 2.75 | 2.75 | | 12/65 | 9/70 | 5/71 | | 57 | +8 | |
| Construction | 463-HO | 4.8 | 4.6 | | 8/66 | 12/70 | 12/70 | | 52 | 0 | |
| Construction | 446-PE | 9.1 | 8.1 | | 5/66 | 10/69 | 7/70 | | 41 | +9 | |
| Dredging Project | 617-LBR | 3.6 | 3.5 | | 6/69 | 11/71 | 7/71 | | 29 | -4 | |
| Construction Equipment | 429-SP | 40.0 | 40.0 | | 9/65 | 12/68 | 3/72 | | 39 | +39 | +100 |

dit

Projects previously reported and listed in Annex to Memorandum of April 18, 1972.

Project previously reported in Annex to Memorandum of April 18, 1972 with data "filled in by Division".

New projects physically completed by March 31, 1972 but not previously reported.

## Explanation of Delays Exceeding 15% of Estimated Time for Project Completion

Following projects more than 15% in excess of estimated completion date (see column (10) - TABLE 1):

| | | |
|---|---|---|
| *294-IN | INDIA | Port Construction and Equipment |
| *65-PAK | PAKISTAN (BANGLADESH) | Inland Water Transport |
| 446-PE | PERU | Port Construction |

The contractor on this project, an Italian-Peruvian consortium was slow in progressing the work; construction work was completed some 18 months late. There were some serious foundation problems encountered which contributed to the delay.

| | | |
|---|---|---|
| 429-SP | SPAIN | Port Construction and Equipment |

Execution of project items was delayed principally by contracting and procurement practices but this was considered acceptable because the work involved 121 international and local tenders. Administrative procedures also contributed to the total delay.

* Narrative explanation of delay in completion already included in accompanying Annexes to Memorandum of April 13, 1972.

## Explanation of Cost Overruns More Than 15% In Excess of Estimate

Following projects more than 15% in excess of estimate (Columns (14) and (15) - Table 2):

| Type of Project | No. | (14) L.C. Variance (%) | (15) Total Variance (%) |
|---|---|---|---|
| Port Construction & Equipment | 294-IN | +105 | +27 |
| Inland Water Transport | 65-PAK | +81 | +32 |
| Port Extension & Improvement | 437-PA | +29 | - |
| Port Dredging | 617-LBR | +50 | - |

INDIA: 294-IN

L.C. Variance (14)

The local component of actual project costs increased by 105%, from an estimated Rs. 47.6 million to Rs. 97.6 million. Numerous delays were incurred in the implementation of project items resulting in major price increases. Slow construction starts, losses in key personnel, approval procedures (referral of decisions to New Delhi for approval), changes in list of goods, and emphasis on local procurement (and practices), all contributed significantly to the cost escalation. Devaluation of the Indian Rupee on June 6, 1966 was also a prime factor.

Total Variance (15)

The increases in local costs resulted in a price increase of 27% over the amount originally estimated.

PAKISTAN (BANGLADESH): 65-PAK

L.C. Variance (14)

The local component of actual project costs increased by 81%, from an estimated Rs. 24.3 million to Rs. 44.0 million. Local cost increase was due in part to increases in the scope of the project, such as a larger number of landing stages, additional office buildings, and living quarters for personnel in remote lacations. Also a factor was the substantial increase in land acquisition costs as the project progressed.

Total Variance (15)

The 32% increase in total cost is solely due to the increase in the local currency component.

PARAGUAY: 437-PA

L.C. Variance (14)

On this project, the local currency component increased by 29%, from an estimated ₲ 183 million to ₲ 235.6 million. The cost increase was caused by engineering changes based on more detailed information on physical conditions, general price escalation, and increased payments to engineering consultants for the extended construction period.

LIBERIA: 617-LBR

L.C. Variance (14)

The increase in local currency costs, approximately LIB$ 300,000 over the original estimate of LIB$ 600,000, was due to the contractor's bid which was below the estimated foreign component and higher in the local component. This increase in the local component cost of some 50% is considered reasonable, however, when viewing the project on a total cost basis; i.e., total project cost exceeded the original estimate by only 5%.

| (1) Type of Project | (2) Number | (3) Loan/Credit Amount (million US$) Original | (4) Final | (5) Month/Year of Agreement | (6) Estimated Project Costs, Foreign Component (millionUS$) | (7) Estimated Project Costs, Local Component | (8) Estimated Project Costs, Total (million US$) | (9) Exchange Rate | (10) Actual Project Costs, Foreign Component (millionUS$) | (11) Actual Project Costs, Local Component (million) | (12) Actual Project Costs, Total (million US$) | (13) Variance between (10)&(6) % | (14) Variance between (11)&(7) % | (15) Variance between (12)&(8) % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PORTS | | | | | | | | | | | | | | |
| Port Construction and Equipment | 294-IN | 21.0 | 18.8 | 8/61 | 21.0 | Rs. 47.6 | 31.0 | Rs.4.762 | 18.8 | Rs.97.6 | 39.3 | -10 | +105 | +27 |
| Port Construction | 364-NZ | 7.8 | 6.7 | 11/63 | 7.8 | NZSh. 34.3 | 12.6 | NZSh. 7.154 | 6.7 | NZSh.34.3 (a)/ | 11.5 | -14 | 0 | -9 |
| Inland Water Transport | 65-PAK* | 5.3 | 5.2 | 8/64 | 6.2 | Rs. 24.3 | 11.3 | Rs.4.7 | 5.7 | Rs.44.0 (a)/ | 14.9 | -8 | +81 | +32 |
| Port Ext. and Improvement | 437-PA | 2.75 | 2.75 | 12/65 | 2.5 | ¢ 183 | 3.95 | ¢ 126 | 2.7 | ¢ 235.6 | 4.5 | +8 | +29 | +14 |
| Port Construction | 463-HO | 4.8 | 4.6 | 8/66 | 4.8 | L. 4.8 | 7.2 | L 2.0 | 4.6 | L. 5.4 | 7.3 | -3 | +13 | +1 |
| Port Construction | 446-PE | 9.1 | 8.1 | 5/66 | 9.1 | S/. 150 | 12.6 | S/. 43 | 8.1 | S/. 161 | 11.8 | -11 | +7 | -7 |
| Port Dredging (b)/ | 617-LBR | 3.6 | 3.5 | 6/69 | 3.6 | LIB$ 0.6 | 4.2 | LIB$1.00 | 3.5 | LIB$ 0.9 | 4.4 | 0 | +50 | +5 |
| Port Construction and Equipment (c)/ | 429-SP | 40.0 | 40.0 | 9/65 | 40.0 | Ptas. 1,484 | 61.2 | Ptas. 70 | 40.0 | Ptas. 1,574 | 62.5 | 0 | +6 | +2 |

* Credit

** US$1.00 equivalent

(a)/ Estimated "Actual" costs based on best information available at this time.

(b)/ Project considered physically completed. Remaining items to be financed (to July 1973) from loan account in US$50,000 for Adviser's salaries.

(c)/ Project considered physically completed. Government will finance remaining and/or revised list of goods and remainder of construction of mineral berth.

Appraisal & Prep of Projects
Cost -

Mr. E. Capbert April 28, 1972

B. du Parc

Project Costs and Completion Time

1. According to Mr. Ripman's request, we have prepared information on project costs and completion time. Attached are the tables with footnotes and explanations where necessary.

2. As suggested in the memorandum dated April 21, 1972, we have excluded from the project costs sheet two program loans/credits (162-IN and 428-EA) on the following grounds: The two loans covered financing of items under broad categories and reallocation among categories occurred; in the Indian case, the Bank financed less than 10% of the project, spread over two years. In the case of East Africa, a substantial part of the program was carried forward after 1967, making any comparison with the planned program almost impossible. Attached are the data related to these two loans/credits.

3. As indicated in the memorandum dated April 21, 1972, railway projects consist essentially of equipment lists. We have, therefore, limited our analysis to a comparison of estimated with actual costs of Bank-financed items. Therefore, figures in Columns (3) and (6) are identical.

4. In three cases (57-PAK, 387-SP, 496-PAK), the appraisal report did not give any breakdown in the local cost component between the part related to Bank-financed items and other items. Therefore, only the actual cost of the foreign component of Bank-financed items could be estimated. In such cases, the figure for local component is zero.

5. Railways projects have experienced substantial delays in completion time ranging from 25% to 100%; but almost no overruns have occurred. There are two principal explanations:

(a) time delays have affected only a few low cost items in the loan and usually were related to civil engineering works. In most cases, a substantial percentage of the loan was disbursed at the closing date; and

(b) the cost estimates were fairly accurate because in all the projects, almost all goods financed were equipment goods, for which good estimates could be made. In addition, cost estimates for equipment items, which are completely imported and therefore completely financed

by the Bank, sometimes become self-fulfilling, when the borrower is able to adjust the number of items to be purchased in one category to meet cost estimates (typical cases are the number of freight cars, rails, etc.). Railways very often plan in financial rather than physical terms and we have no way of checking unit cost estimates against unit prices in these old loans.

Attachments
TOursin/BduParc:bh

Appraisal Cost Prep of Projects

Messrs. Ballantine, Evans, Fuchs and Weiner April 24, 1972

B. Chadenet B. Chadenet

Comparison between Bank Appraisal Reports and similar Reports from IADB, ADB and U.S.AID

In order to be able to compare our appraisal reports with those of similar institutions I have collected 16 appraisal reports - 6 from IADB, 5 from ADB and 5 from U.S.AID: they relate to projects in the field of agriculture (3), education (3), industry (1), power (4), water supply (1) and DFCs (4).

Would you please examine these reports so as to compare them in substance as well as presentation with Bank appraisals. While your comparison should mention in which respects these appraisals seem to be inferior to ours, it is obvious that we are all more interested in the points you judge to be superior so that we can improve our work.

Would you let me have the findings of your review of the attached reports by May 12.

Attachments

BChadenet:jfh

c.c. Mr. Diamond

Appraisal Reports of Projects



Messrs. Ballantine, Lyons, Fuchs and Wetner April 24, 1972

B. Chadenet B. Chadenet

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Would you let me have the findings of your review of the attached reports by May 12.

Attachments

BChadenet:jfh

c.c. Mr. Diamond

Appraisal, Cost & Prep. of Proj.

Division Chiefs

April 24, 1972

R.H.S. Fennell

Project Costs and Completion Time

As you will see from the attached copies of memoranda from Mr. Ripman, certain cost data are required on completed projects by Friday, April 28.

At the time of the last review of such projects only two education projects were considered, namely Kenya I and Chile I. In the 9 month period which has elapsed since July 1971, Controllers' records show that no additional education projects have been completed. However, in view of the definition in Mr. Ripman's memoranda of April 21 you may wish to consider whether Ethiopia I and Philippines I should be regarded as "substantially complete".

I would be grateful if you could nominate one of your architects to meet with me tomorrow at 11.30 a.m. to discuss the way in which we can most easily complete the necessary data for Mr. Ripman. It would help in the meantime if the persons could read over the attached memoranda.

c.c. Mr. Calika

Division Chiefs

April 24, 1972

R.H.S. Fennell

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c.c. Mr. Calika

APR 11 32 AM 1972

Director's memo.
V re Appraisal, Cost+Rep of Proj.

April 14, 1972

Mr. H.G. van der Tak

Abdel Kagaid A. Kagaid

Draft Director's Memorandum
Treatment of Foreign Exchange and Employment in
Project Financial Reports

1. I refer to the draft Director's Memorandum No. 2.13(D.M.) (February 14) on the subject. The memorandum aims at isolating the foreign exchange and employment effects in the content of the present cost benefit analysis and emphasizes that the tests suggested do not add anything new to the previous evaluation of the economic merits of a project. The employment effect is the subject of this memorandum. As in the D.M., we shall not attempt, here, to measure the indirect employment effect (for analytical and statistical difficulties). However, this should not confuse the issue as we do not, in any case, measure the indirect effect on growth generated by a project through the multiplier and accelerator on consumption and production expend following (and during) the implementation of a given project.

2. The cost/benefit technique of project appraisal aims at ensuring that a project will provide a reasonable economic and, where appropriate, financial return. The former is regarded as a more significant measure of a project's contribution to the overall growth objectives of a country. The questions that needs to be faced, therefore, are how do we define the "economic return"? and how do we measure the "growth objectives of a country"? The reason for raising these questions stems from the growing concern regarding the current definition of development as that of the process of maximizing economic returns to capital - a definition which is explicit in the Bank's project evaluation methods and at the same time somewhat contradictory to a number of policy statements issued by the Bank on various occasions.

3. As an attempt to bridge the gap between policies and operations, the D.M. proposes a test for measuring the employment effect of a project which is simply that "net labour output should exceed or equal wage costs at shadow rates." I fail to see the meaning and significance of this test because that condition would always hold whenever the economic benefit/cost ratio is equal to or higher than one. In other words the employment test will always be positive for every approved project; we may therefore pat ourselves on the back.

4. More seriously, although the test may appear harmless as it is nothing but a simple rearrangement of the variables of the cost/benefit calculations, the results are misleading. Consider the following example of two projects with identical cost benefit ratios but one of them is less labour intensive. (The figures used are from the DM with the exception of the total wage bill for Project B).

| | | Project A | Project B |
|---|---|---|---|
| Foreign exchange benefits | (in foreign currency) | 60 | 60 |
| Domestic benefits | (in local currency) | 20 | 20 |
| Foreign exchange cost | (in foreign currency) | 40 | 40 |
| Domestic cost | (in local currency) | 30 | 30 |
| of which wage bill | | 24 | 18 |
| Shadow wage rate | | 3 | 3 |
| Number of workers | | 8 | 6 |
| Shadow exchange rate | | 2 | 2 |

The proposed test of employment effect would be as follows: 1/

Project (A): $(60 \times 2) + 20 - (40 \times 2 - 6) \div 8 = 8.25 > 3$
Project (B): $(60 \times 2) + 20 - (40 \times 2 - 12) \div 6 = 12.00 > 3$

5. Both projects, therefore, satisfy the test as the products in both cases are higher than the shadow wage rate. However, the less labour employed as in project (B) the higher the product of the test. A generalization might lead to the hypothesis on a series of numerical examples. It would, in any case be futile as a more meaningful examination would require varying the domestic and foreign exchange cost of capital and of production with employment alternatives. It would be more useful, however, to test this hypothesis on a sample of Bank financed projects.

6. Simultaneously, I propose an additional test which takes into account the two questions raised in paragraph 2 above. The new test does not require additional data other than those incorporated in the calculation of the traditional cost benefit analysis. The proposed test is in the form of a ratio where the numerator is based on a redefinition of the net benefits of a project, and is viewed as an additional rather than a substitute for the traditional cost benefit ratio.

7. Let us redefine the benefits of a project in a manner consistent with the development objectives of a country, which we assume to encompass both growth and employment. The former is a function of a project's ability to generate more value than it uses over its estimated life. The specific test for this, which the Bank's project work is primarily concerned with, is measuring the size of the surplus in relation to the cost of producing it i.e. the earning power of capital. The latter, employment, is measured in terms of the domestic labour input into the project measured by the size of the wage bill, thus,

$$\text{Net Benefits} = \underbrace{\text{Gross Benefits}}_{\text{(Growth)}} - \text{Cost of Production} + \underbrace{\text{Wage Bill}}_{\text{(Employment)}}$$

All the variables are measured as streams expressed in terms of present values, discounted at the shadow rate of interest (opportunity cost of capital). In symbolic terms:

$$\text{the current Bank C/B ratio} = \frac{Bn}{Ck}$$

$$\text{the proposed Meguid C/B ratio} = \frac{Bn + W}{Ck}$$

---

1/ There appears to be a typographical error in the text of the DM. In paragraph 16, the formula in the tenth line does not equal that in line 9. We have applied the former. The latter would give different numerical results

8. Thus while the Bankas ratio is essentially a measure of the earning power of capital, the proposed ratio incorporates its employment 'power' as well. For this purpose the wage bill (W) is included as the product of the number of people employed by the project times the shadow wage rate. 1/ Some numerical examples may be indicative. These are given in the following hypothetical comparisons:

| | PROJECTS | | | |
|---|---|---|---|---|
| | (A) | (B) | (C) | (D) |
| Net benefits (traditional) | 125 | 115 | 90 | 80 |
| Wage bill | 20 | 30 | 50 | 55 |
| Total | 145 | 145 | 140 | 135 |
| Capital cost: Foreign | | | | |
| Capital cost: Foreign | 50 | 40 | 30 | 20 |
| (Shadow exchange rate) | (2) | (2) | (2) | (2) |
| Local | 10 | 20 | 30 | 40 |
| Total | 110 | 100 | 90 | 80 |
| Number of workers | 20 | 30 | 50 | 55 |
| Bankas Benefit Cost ratio | 1.14 | 1.15 | 1.00 | 1.00 |
| Meguid Benefit Cost ratio | 1.31 | 1.45 | 1.56 | 1.69 |
| Chadenet employment test as a ratio to Shadow wage rate (=1) | 7.25 | 4.83 | 2.80 | 2.46 |

9. No special significance should be attached to the values given to the above variables; an attempt was made to respect the following assumptions in an approximate way:

(a) That net benefits, as measured by the Bank's formula declines as the wage bill increases by the same amount as in project (B) or by a higher amount as in projects (C) and (D);

(b) That the foreign component of the capital cost declines as labour intensity increases;

(c) That the total capital cost, with foreign exchange, not valued at shadow rate, remains constant.

10. The results of these hypothetical examples, with due qualifications, could be significantly revealing. The Chadenet employment test moves, more or less, in the same direction as the Bank's benefit cost ratio; the less labour intensive the higher the Chadenet test and the higher the Bank's benefit-cost ratio i.e. the higher the earning power of capital. The Meguid benefit cost ratio is positively correlated with the level of employment generated by the project. These ratios are shown diagrammatically as attached.

---

1/ A case for using market rather than shadow rate can be made and would perhaps make the ratio a superior measure of employment even though the (Bn) is obtained as gross benefits less cost of production which includes wages at the shadow rate.

All these relationships, however, are unlikely to be linear but should be explored on the basis of actual project data as proposed in paragraph 5 above. Indeed it might also be worthwhile to apply these tests on projects which have not been approved for Bank financing; because their benefit cost ratio was less than one. The lower (as well as the upper) ends of the curves shown in the accompanying diagram need also to be ascertained. 1/

11. Of equal importance, the proposed exercise might prove to be a first positive step towards verifying and quantifying the implicit assumptions underlying the analysis of projects in terms of both employment and growth, namely;

(a) That employment and growth are not compatible - if so what is the trade-off?,

(b) That the present emphasis on financing the foreign exchange component of capital help countries achieve their development objectives (a combination of growth and employment in varying degrees) without diverting domestic resources which might be equally or better utilized to achieve these objectives.

(c) That the present Bank's project evaluation methodology is consistent with the Bank's concern for the social dimension of development.

---

1/ The "Meguid" ratio could be adjusted to reflect a growth priority or an employment priority depending on the economic characteristics of different countries; thus the benefit cost ratio may be measured by

$$\frac{\overline{(B_1)^2 + W}}{(C_1)^2} \quad \text{or} \quad \frac{\overline{B_2 + W^2}}{(C_2)^2}$$

two
for the/types of priorities respectively.

Abeguid:mew

cc: Messrs. Votaw, Blobel, Eschenberg

Attachment

Appraisal, cost & prep of Projects

Mr. B. Chadenet

April 12, 1972

Hans A. Adler

Treatment of Government Revenues in Appraisal Reports

1. At our recent meeting on the Ivory Coast Rubber Project (March 29), you asked me to send you a reminder about the need for clarification in the treatment of Government revenues in appraisal reports.

2. It is my impression that there is a lack of uniformity in the treatment and reporting of the project's impact on Government revenues and expenditures. For example, should disbursements and repayments of Bank loans or IDA credits be taken into account? What about increases or reductions in the deficits of Government corporations? Some reports may not fully allow for all major taxes - income taxes, sales taxes, customs duties, export taxes, etc.

3. I suspect that much of the diversity of treatment arises from the fact that the purpose of the analysis is frequently not clear. Is it, for example, to indicate the impact of the project on the Government's budget, the financial return to the Government, the amount of subsidy provided, or the share of the economic benefits going to the Government? These different purposes, while interrelated, would require different treatment, at least in part.

4. You may wish to consider a Director's Memorandum on the subject.

HAAdler:yt

cc: Messrs Baum, Rovani, van der Tak
Evans, Wapenhans, McIvor, Takahashi, Darnell

Appraised Costs & Prep of Projects

Mr. O. F. Darnell

March 31, 1972

A. Robert Whyte

Project Cost Over-runs

1. Mr. Hardy's paper is stimulating and his concern over cost overuns and their effect on project viability is fully justified. However, the problems faced in this Division are quite different to those in Transportation and so most of Mr. Hardy's suggested safeguards are not applicable to our appraisals. The most important differences are:

(a) Capital costs of the kind normal in Transportation are a much less significant proportion of our project costs. Indeed in some (e.g. Ethiopia Minimum Package) they are relatively insignificant[1]/ Most of our projects are primarily sensitive to variations in timing and amount of benefits.

(b) In only one of our projects (Malaysia Jengka Forestry) were the cost estimates derived from independent consultants. They are usually based on preparation reports prepared by Government, FAMEA or CP and are thoroughly reviewed and very often considerably modified by the appraisal mission. Thus the appraisal team bears much of the responsibility for accurate cost estimating and we can hardly ever pass the buck to a firm of consultants if the estimates are wrong.

(c) Major investment items (e.g. a factory or infrastructure), may often be started late in the project period and in a few cases long after the loan/credit is disbursed e.g. the rubber factories required for Jengka. Thus it would clearly be impossible to delay Board presentation until receipt of bids.

(d) In the case of roads, the types of roads normally included in our projects (panetration and farm to market) do not warrant detailed engineering and preliminary cost estimates are adequate.

2. Turning to Mr. Hardy's specific recommendations:

6.1 Agree fully both in the few cases where consultants prepare feasibility studies and in the way where they participate in appraisals, but I think we already select consultants carefully.

6.2 Inapplicable to most of our projects (see i (b) above). However, the suggestions are most interesting.

6.3 Also largely inapplicable to us.

---

1/ A quick analysis of all our projects shows that 30% of project costs estimates consisted of "capital" costs of land development, buildings, plant (excluding vehicles) and infrastructure.

6.4-6.5 Agree but rarely applicable.

6.6-6.14 These suggestions all seem sound but again, would rarely apply to our projects.

6.15 Not applicable or feasible for our projects.

6.16 I agree fully with this suggestion. It would allow a degree of flexibility in the amount of Bank/IDA financing which is difficulty to provide at present.

6.17 Not feasible for our projects.

3. 7 The suggestion that Consultants be required to report on cost differences is excellent. Incidentally, the consultants for the Jengka Forestry Project have already done so.

ARWhyte/sm

cc: Mr. D. J. Parsons

6.5-6.5 Agree but rarely applicable.

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6.16 I agree fully with this suggestion. It would allow a degree of flexibility in the amount of Bank/IDA financing which is difficult to provide at present.

6.17 Not feasible for our projects.

7. The suggestion that Consultants be required to report on cost differences is excellent. Incidentally, the consultants for the Jamuna Forestry Projects have already done so.

ANMyrta/ms

cc: Mr. D. J. Parsons

Appraisal Cost & Prep - Of Projects

Mr. Owen Price

March 29, 1972

John A. Holsen

More on "Estimates of Constant Prices"

1. Paragraph six of your March 23 memo to Mr. Mahbub ul Haq on the above subject makes a clear distinction between the process of "converting current prices (i.e. prices actually ruling in the market place at any given point in time) into constant prices" and that of "estimating the effect of inflation on the price of a commodity". The former is what is relevant to project evaluation. In the latter case, it seems to me, the analyst is simply trying to determine the effect upon price of inflation (in the same way that one must consider the price effects of changes in technology or taste). In this latter case inflation is affecting the "real" as well as the current price of a commodity.

2. If I am correct in the above, part of the answer to the questions you raise in paragraph eight is clear. One definitely should not use commodity specific deflators to convert current prices into "real terms" for project appraisal. The latter should be done by an appropriate general price index. The same general price index should be used to deflate the prices of all inputs for and outputs of a particular project given in projected current prices. Just what price index should be used for this purpose needs to be determined. The aim is to get the right relative prices -- i.e. the prices in year t, t+1, t+2 ... t+n all expressed in terms of the general price level prevailing in the base period selected.

3. As to "the effect of inflation upon the price of a commodity", I must confess to a seeming lack of consistency on my part. Six months ago I argued that one should try to measure the elasticity of commodity prices with respect to the general level of prices. (My hypothesis was that some commodity prices are likely to be "sticky" with the result that the inflationary process leads to lower "real" prices for these commodities.) More recently I have been arguing that the most practical assumption for projection purposes is that developing countries will follow purchasing power parity exchange rate policies, an assumption which will eliminate the kind of "effect of inflation upon the price of a commodity" which was emphasized in your recent draft paper on the price outlook for nine commodities.

4. My earlier idea of measuring an "elasticity" was, I now suspect, overly ambitious. We must be explicit about the "effect of inflation" in the sense of the general price index that is to be used to convert current to constant and constant to current prices; commodity specialists should

look at how the price of "their" commodity has moved or is likely to move relative to an appropriate general price index. The other kind of "effect of inflation" -- which affects both the projected current and the "real" price of a commodity -- must also be taken into account, but it is probably difficult to isolate from the many other factors affecting supply and demand conditions. Price projections, whether done in constant or current prices, should be based upon specific assumptions regarding changes in the "general level of prices" but we don't insist upon (at least not yet!) projection models which incorporate changes in the rate of change of the general level of prices.

cc: Messrs. Henderson, Lerdau, Haq, Tims, Reutlinger
Messrs. Evans, Helmers, Sonley, Lowenstein

Mr. Owen Price March 29, 1972

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cc: Messrs. Henderson, Lerdau, Eng, Time, Bentzinger
Messrs. Evans, Helmers, Sonley, Lowenstein

Cultural Lives
Appraisal, Cost & Prep of Projects

Mr. Mahbub ul Haq

March 23, 1972

O. T. W. Price

Estimates of Constant Prices

1. In the course of preparing our price forecasts for the Board, I have become concerned at the differences in interpretation being given to the term "constant prices" and also at the belief that there is some absolute correction factor which the Economics Department can apply to prices quite independently of the assumptions being made about project costs in the country in which the investment is being executed.

2. I wish to recommend that the Steering Committee (of which you are a member), which is looking at project appraisal techniques, should examine the assumptions and conceptual framework relating to the cost and income streams and the way these are treated in arriving at the financial and economic rates of return. It seems to me that there should be some common underlying assumptions relating to the way both the cost and income streams are treated.

3. On the price side, even for a single commodity there is a whole range of price assumptions which can be made and none of them are right or wrong in any absolute sense. It is first necessary to define more precisely in relation to the commodity and the country in which the investment is being made what we wish to measure with the price. A forecast price is a valuation and this can vary depending on the purpose of the valuation. For example, in estimating the financial rate of return, an indigenous investor aiming to sell his products on the local market would be interested in the cost and income streams in current prices in the local currency, even if these exhibit an inflation rate of 50 percent or more per annum. Local entrepeneurs in Brazil have had to make their financial calculations under these circumstances and some of them have done pretty well. On the other hand, an investor in a developing country who intends to export all his production would be more interested in current prices on the international markets and possible changes in exchange rates.

4. When we wish to convert these current prices (local or international) into constant prices the criteria will vary depending on circumstances. I understand - but I might be wrong - that whenever one refers to constant prices one is concerned with maintaining the purchasing power of money. This is a simple concept at an abstract level, but when applied in practice it becomes necessary to define the objectives or aspirations of the investor more closely. At present it is being assumed in the Bank that general inflation in the OECD countries will proceed at 3½ percent per annum during much of this decade. This implies that the value of money, in the way that it is being spent in the OECD countries, will fall at this rate per annum. The OECD pattern

of expenditure includes a very substantial amount on services such as health, car maintenance, haircuts, dining out, etc. It is also true, however, that if money in the OECD countries were used purely to purchase goods (but excluded services) the purchasing power of money over this same period would fall on average by only 2 percent per annum. Either of these indices could be used for arriving at constant prices, depending on the object of the exercise.

5. If we now move on to the LDCs and the way they spend their money and their desire to keep their purchasing power intact over time, it will be apparent that a different divisor might be necessary from that used in a developed country. Certainly a far smaller proportion of the Gross Domestic Product would be spent on services and a higher proportion on capital and basic consumer goods, including food. In these countries we are concerned with measuring the purchasing power of the earnings from a project in buying goods normally purchased either on the local market or imported by that country. The adjustment required to be made to current prices would be different in each of these two cases and it could certainly be different from that in a developed country.

6. I would like to point out also that converting current prices (i.e. prices actually ruling in the market place at any given point in time) into constant prices in order to ensure that we have taken into account the purchasing power of the earnings for the project is quite different from estimating the effect of inflation on the price of a commodity. For example, the world prices of rubber might have an inflation element of 10 percent over the next decade, but it seems to me dubious to deduce from this that you can arrive at the earnings from rubber projects in Ceylon or Malaysia in constant prices by correcting the income stream (or rubber prices) by 10 percent. The adjustment could be more or less than 10 percent and it might even be different for Ceylon and Malaysia - countries which have very different standards of living and patterns of expenditure.

7. I do not pretend to know the answers to all the issues I have raised. I consider, however, that as long as the Bank pays attention to the rate of return from a project - and I am not questioning the use of this yardstick - it is vital that close scrutiny be given to the assumptions underlying our price and cost estimates and the way they are estimated and adjusted. As the costs and prices are estimated in different departments of the Bank it is also vital that the various departments are operating on commonly held assumptions.

8. One possibility that the Steering Committee should consider is whether deflators to arrive at constant prices and costs should be selected on the basis of project objectives rather than being commodity specific as in the past. If this approach were taken the Economics Department would still provide forecasts in current prices of commodities traded on international markets. It should also probably prepare several general economic indicators for the LDCs such as, for example, indices of changes in the unit value of

imports to LDCs which vary by country and region. These could be applied as appropriate to bring the cost stream and income stream into constant value terms.

cc: Messrs. Henderson, Reutlinger, Tims, Holsen
Messrs. Evans, Helmers, Sonley, Lowenstein

OTWPrice/hl

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cc: Messrs. Henderson, Rentzinger, Tims, Holsen
Messrs. Evans, Heimers, Sonley, Lowenstein

OTWPrice/nj

Appraisal Cost & Preparation of Projects

Mr. S.C. Hardy

March 22, 1972

H.R. Young

Re: Project Cost Over-Runs

1. The following are some comments on your memo of March 15 on the difficult problem of cost over-runs. I agree with your list of factors influencing cost over-runs and wish to suggest an additional factor which we have frequently encountered in some of the countries covered by Highway Division II. I would like to see the responsibility for mitigating the effect of the factors you mention more widely shared; I doubt whether it is either reasonable or practical to hold consultants responsible to the extent suggested and to apply the onerous penalties proposed.

2. Three parties are as noted in paragraph 4, are concerned with initiating, preparing and executing projects: the government, the consultant and the contractor. I suggest that a fourth be added, the Bank. Not only does the Bank normally provide the bulk of the financing, but it is usually an active participant in the identification, preparation and execution phases you mention. Thus it seems to me that the Bank has the leverage and the opportunity to take the leas in resolving the problems which cause cost over-runs.

3. Of the twelve factors listed as the principal ones influencing cost over-runs, six (paras. 4.1-4.5, 4.11) are largely attributed to government action or lack of it. Many of these problems could be considerably eased if not eliminated by our borrowers if they chose to do so. The Bank should be prepared to take a firm stand against those whose performance in these matters is unsatisfactory. Mr. Ripman mentioned in his recent draft report on supervision that the Bank rarely availed itself of the recourses open to it to ensure better performance. More effort on the part of the Bank to use its influence to secure compliance with its covenants, and a willingness back it up with appropriate action would have a salutary effect on borrowers whose indifference to the problems they create for contractors and consultants is often responsible for cost over-runs.

4. Only two of the factors listed can be directly attributed to consultants: poor quality of design and poor supervision. The remaining are largely beyond their control other than pointing out their existence to the government or contractor. Thus I do not think that penalties against consultants will eliminate the main causes of cost over-runs. While a consultant should be able to prepare an accurate bill of quantities, I do not see how he can be expected to accurately estimate prices in countries where works are so infrequent that bids are liable to range widely depending on contractor interest, competitive pressures and individual assessment of the hazards of working in a country where contractors are unfairly treated.

5. The penalties suggested would discourage all but the largest corporate and government-supported consulting enterprises, and I doubt if even they would risk penalties which could amount to many times the size of their fee, and lead

to their being "blackballed" from Bank work. Furthermore, penalties would eliminate consultants' interest in difficult projects and tempt them to bring project costs into line with the bid during execution by lowering design requirements and specifications.

6. Para 5 of your memo infers that a contractor is likely to take all factors into account when preparing an estimate while a consultant may not. An important reason why contractor's estimate is likely to be more accurate than a consultant is that his bid is only valid for a limited period, normally 60-90 days. On the other hand, a consultant's estimate is often two years old from the time of Bank appraisal to bid opening with the result that substantial changes in bidder interest, the competitive situation and the political environment may have taken place after the engineer's estimate was prepared. A recent check on time taken from loan signing to start of work on road projects in French speaking West Africa indicated an average period of 19 months (see annex). I believe that no amount of technical skill and judgement can predict what a contractor will bid under the above circumstances, particularily where major works are infrequent.

7. I subscribe fully to your suggestion in para 6.17 that the Bank defer the making of a loan until bids have been received. However, this may present a problem in some countries where the law forbids a call for tenders without assured financing. Deferred lending would also eliminate the problem you note of unreasonable claims and extras which some contractors submit when they see that considerable sums remain in the loan account.

Attachment: 1

HRYoung:db

cc.: Messrs. Malone, Mahoney, Brandreth.

Mr. Harold R. Young

March 14, 1972

Georges Chaix

Date Construction started on Highway Projects

Following are the dates when construction started on selected highway projects:

| Loan/Credit Agreement | Date Loan/Credit Signed | Date Construction Started or Projected | Number of Months |
|---|---|---|---|
| Credit 69-MAU | March 29, 1965 | October 1967 | 30 |
| Loan 761-IVC | June 21, 1968 | April 1969 - Contract Signed only in July 1969 | 10 |
| Loan 542-IVC | June 22, 1971 | Not yet started. Estimated in May/June 1972. | 12 |
| Loan 663-CM Credit 180-CM | March 27, 1970 | November 1971 | 20 |
| Credit 55-MIR | June 24, 1964 | August 1967 | 38 |
| Credit 198-SE | June 19, 1970 | August 1971 | 14 |
| Credit 146-CA | April 3, 1969 | April 1970 | 12 |
| Loan 642-MOR Credit 167-MOR | November 13, 1969 | June 1971 (Construction Agadir - Marrakech) | 19 |
| | | Total | 155 |
| | | Average | 19.3 |

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GChaix:rp

V. OECD/DAC
V.C - Appraisal Cost + Prep of Projs.

March 21, 1972

Dear George:

In your letter of March 9 to Dick, one of the questions asked was whether anyone from the Bank would be attending a meeting of experts, to be convened probably on May 30-31, to discuss a report prepared for DAC on project appraisal.

I have just had a note from Bernard Chadenet, saying that Mr. van der Tak will attend the meeting. We shall assume that the indicated date is firm unless you let us know otherwise.

Sincerely,

SB

Shirley Boskey
Development Services Department

Mr. George C. Wishart
Chief, Liaison Operations
European Office
International Bank for
Reconstruction and Development
64/66 avenue d'Iena
Paris 16e, France

SEBoskey:tsb

Form No. 58 | INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

OECD/DAC

Vc Appraisal Cost and Prep of Proj-

# OFFICE MEMORANDUM

TO: Messrs. ~~Chadenet~~ and ~~Baum~~

DATE: March 15, 1972

FROM: Shirley Boskey → (Mrs Boskey) Mr Van der Tak will attend meeting BC March 17

SUBJECT: Experts' Meeting on Project Appraisal (DAC)

On March 9 I sent to you DAC(72)15, concerning future DAC work on project appraisal, which refers to the possibility of convening an expert group on May 30-31. (Another copy of the document is attached for reference.) George Wishart has just informed us that it has been decided to convene a meeting on those dates, and he asks to be told whether we plan to send anyone. He says that it was stressed at the DAC meeting which took the decision that Bank participation would be very desirable. Messrs. Duane and van der Tak have recently been involved with DAC work on project appraisal, having prepared comments, at the request of the Paris Office, on a study done for the DAC Secretariat. Will you let me know, so that I can inform Wishart, whether we intend to send someone to the meeting?

Appraisal, Cost & Rep - of Projects

Mr. A.T. Davis

March 14, 1972

F. Higginbottom

Publication

In reference to Mr. Knox's comment in the recent Division Chief's meeting, Mr. Brandreth and I have discussed the position and believe it might be worth considering publication of the standard Ports questionnaire "Information required in connection with appraisal". It is not suggested that this document is ready for publication in its present form, but after some editing it is thought there are some matters which it would be useful for any port authority to consider when approaching investment decisions.

FHigginbottom/mpr

OECD/DAC
Vcc Appraisal cost + Rep of Eng

Headquarters:
Washington, D.C., U. S. A.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
Cable Address - INTBAFRAD PARIS

INTERNATIONAL DEVELOPMENT ASSOCIATION
Cable Address - INDEVAS PARIS

EUROPEAN OFFICE:
66, AVENUE D'IÉNA, 75 PARIS 16E - FRANCE
Telephone - 720.25.10

March 9, 1972

Dear Dick,

Future DAC work on project appraisal

May I refer to a note by DAC Secretariat on the above (DAC(72)15) which we sent on to you a few days ago. At the DAC meeting yesterday, it was agreed to try and convene a meeting of experts on May 30 and 31. Can I now ask you whether this would be suitable for a Bank expert. It was stressed at the meeting that, of course, participation by the Bank in the expert meeting would be very essential.

DAC High Level Meeting

After some discussion yesterday, the tentative date for the DAC High Level Meeting this year was fixed at October 16 and 17. Probably to begin in the afternoon of the 16th. Ed Martin asked all delegations to find out from their Ministers whether or not these dates would be suitable and advise the Secretariat in due course. Could we have an indication please whether this would seem suitable from the point of view of Bank representation.

Incidentally, one of the reasons for moving the meeting up to October 16 and 17 is that it is proposed to have a Summit Meeting of the enlarged European Economic Community in Paris on October 19 and 20 and it is likely that an item on Development Assistance will feature on the agenda of that meeting. Accordingly, ministers concerned with development aid may have to be in attendance on their Prime Ministers for that item at some time during October 19 and 20.

With kind regards.

Yours sincerely,

G. C. Wishart

Mr. Richard H. Demuth
Director
Development Services Department
International Bank for
Reconstruction and Development
Washington D. C. 20433

Appraisal, Cost & Prep. of Projects

Miss Flora White March 8, 1972

Gottfried Ablasser

Crop Prices for Project Appraisal

1. To complete the economic evaluation of the Second Atlantico Development Project in Colombia, I need urgently the following world market price estimates for 1978-80:

| | | |
|---|---|---|
| 1. | Sesame | Barranquilla c.i.f. |
| 2. | Soybeans | " |
| 3. | Cottonseed | " |
| 4. | Peanuts | a) Average Nigerian export quality (f.o.b) |
| | | b) Confectionary quality |

2. Although calculations are not final, the following annual production levels are indicated for the project:

| | | |
|---|---|---|
| Sesame | 3200 | tons |
| Soybeans | 4000 | tons |
| Cottonseed | 6400 | tons |
| Peanuts | 1500 | tons |

3. Your speedy attention is appreciated.

GAblasser:hrv

Miss Flora White

March 8, 1972

Gottfried Ablasser

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GAblasser:mrv

Data Processing - Data Bank
Vcc Appraisal Cost & Prep of Projects

# THE INDUSTRIAL CREDIT AND INVESTMENT CORPORATION OF INDIA LIMITED

163, BACKBAY RECLAMATION, BOMBAY 20 BR GRAMS: "CREDCORP" BOMBAY PHONE: 295031

Sec.A/4717

March 2, 1972

Mr. William Diamond
Director
Development Finance Companies
International Bank for Reconstruction
and Development
1818 H Street, N.W.
Washington D.C. 20433
U.S.A.

Dear Mr. Diamond:

You will recall that while Mr. Parekh and I were in Washington last September, we had discussed the idea of sending a Senior Officer from ICICI to the Bank to study your present methods of appraisal particularly giving stress to the economic appraisal of projects. The Officer could also have useful discussions with regard to the proposed 'Data Bank' and also to look into the use of computer application in the Bank.

Our idea this year is to nominate Mr. S.S. Nadkarni, Chief:Projects, to visit the Bank sometime in the last week of April. Nadkarni could spend 2 or 3 weeks at the Bank in Washington and we suggest another week in New York. While he is in New York, we would like him to meet some investment bankers and merchant bankers (The First Boston Corporation and the Chase Manhattan Bank) where he could acquaint himself with merchant banking techniques and study the issuance of convertible debentures and loans which have recently been introduced in India on a wide scale. I would very much appreciate your ideas on this subject. The arrangements for Nadkarni's visit may be on lines similar to those followed for our special trainees in the past. If, however, there is any change in the Bank's policy regarding payments made to trainees during their training with the Bank, please let us know and we shall be prepared to cover such payments.



... 2

Mr. William Diamond
I.B.R.D.
U.S.A.

March 2, 1972

If you are agreeable to our suggestion, we would appreciate if a formal letter of invitation could be issued to Nadkarni to enable us to proceed with the Reserve Bank of India's formalities.

With kind regards,

Yours sincerely,

S. S. Mehta
General Manager

P.S. The bio-data of Nakdarni is enclosed.

March 1, 1972

Dear Fritz:

By letter of January 28 you transmitted a copy of a study on "Methods of Project Appraisal in the Developing Countries" prepared for the DAC Secretariat by A. Bussery, saying that the Secretariat would like to receive our comments concerning the references to the Bank and on the report as a whole.

I transmitted your request and a copy of the study to Warren Baum, who commissioned Messrs. Duane and van der Tak to review the paper. I enclose a copy of their comments. I leave to you, in the light of what you know about the relationship between the author and the Secretariat, to decide how much of the comments concerning the report as a whole should be passed on to the Secretariat and in what form; you may wish simply to copy out the comments concerning the references to the Bank. I should add that I have not read the study myself, nor am I in a position to evaluate the detailed comments.

With kind regards,

Sincerely yours,

Richard H. Demuth
Director
Development Services Department

Mr. Fritz Steuber
European Office
International Bank for
Reconstruction and Development
64/66 avenue d'Iena
Paris 16e, France

Encl.
SBB:tsb

Appraisals & Preparation of Projects

Mr. Thomas Halbe

S. Shahid Husain

February 1, 1972

Time taken for processing projects

Attached please find an analysis Mr. de Jong has done of the time it has taken for projects in fiscal 71 between the departure of appraisal missions and presentation to the Board. I am struck by the time it has taken to process some of the projects in Zaire and Madagascar; in particular:

1. Zaire River Transport - between green cover and invitation to negotiate: 25 days.

2. Madagascar Alaotra - between green cover and invitation to negotiate: 84 days.

I would appreciate your letting me know what the reason in each case was for the time taken for the steps mentioned above.

SSHusain:ab

UNESCO/IBRD Coop. Prog.
Cost
✓ re appraisal & Prep. of Projects

Mr. S. J. G. Burt

January 28, 1972

D. H. Lewis

The Role of Architects in Combined Preparation/Appraisal Missions

The following comments relate to Mr. Kimmins' memorandum of December 23, 1971 to Mr. van Vliet concerning the role of architects on combined preparation/appraisal missions.

1. The alternative operational arrangements contemplated and discussed by Mr. Kimmins all assume the assignment of two architects (one Unesco and one Bank) to a combined project preparation/appraisal operation. This seems to imply a concept of combined missions as simple summations of the previously separate Unesco and Bank missions which are telescoped together in time but retaining the professional complements of both. However, it is my impression that missions of this type have not been provided with duplicate educators of the same field or duplicate economists (Unesco and Bank) and I imagine that, in the cases of smaller projects or those comprising few different types of educational buildings, a single architect may also be considered sufficient for a combined preparation/appraisal mission team. If this is the case and if on such missions with single representatives of each profession - or professional field- involved, Unesco and Bank staff will be equally eligible for assignment, then the professional roles of Unesco and Bank architects - (and similarly those of Unesco and Bank educators and economists) on such missions will be interchangeable. (In the case of the Greek mission used as the basis of Mr. Kimmins' discussion, I assume that the decision to assign two architects stemmed primarily from the number of clearly different types of educational institutions to be prepared and appraised and I have gathered that any difficulties which arose on mission may have been the result more of personality than of operational problems).

2. If the Unesco and Bank architects' roles on combined missions become interchangeable, I feel that some consideration should be given to their respective roles when not in the field (and similarly perhaps the respective roles of Unesco and Bank educators and economists). Under the present arrangements, a Unesco architect's involvement with a project will be completed on his return to Paris from a preparation/appraisal mission, whereas perhaps the major part of a Bank architect's association with a project will still lie ahead when he returns from such a mission. Interchangeable roles in the field should be balanced by equivalent responsibilities when not in the field and to this end it would seem logical, from the operational point of view, to station Unesco architects together with Bank architects in Washington, where they would become, in effect, Bank architects.

3. If such integration is not feasible for other than operational reasons, I think that the most appropriate division of labor on combined preparation/appraisal operations would be for a Unesco architect to spend the full mission period in the field in order to accumulate all basic appraisal data for the construction component (i.e. existing facility inventories, site data, unit construction costs for structures of similar standard, local cost adjustments, etc.) and for a Bank architect to join the mission only for its final week or ten days to confer with the Unesco architect concerning the information obtained by him and to appraise space costing criteria, foreign exchange components and implementation processes in depth before returning to Washington to finalize project costing.

4. For the sake of the record, I think some note should be made of the reasons for the departures by appraisal architects from Loan or Credit request data, of which Mr. Kirmins has complained. In my experience such departures have never been capricious or the changes made merely for the sake of change! Because of the demands on them by the labor involved in compiling Loan or Credit Request documents, it is appreciated that it may frequently have been difficult for the members of Project Preparation Missions to find sufficient time to check the accuracy of all space and costing components. At any rate, appraisal architects have not infrequently found existing facilities to differ considerably from particulars in Loan or Credit Requests and detailed cost analyses have sometimes indicated the advisability of amending basic cost rates before also adding escalation factors. On occasion, appraisal architects have found it necessary to amend not only schedules of required accommodation in accordance with changes in curricula or teaching programs considered appropriate by appraisal team educators but sometimes also the areas per accommodation unit. Unesco space "standards" have not been used as inflexible norms but as useful guides for areas to be modified as necessary to suit specific needs or circumstances.

DHLewis:ldz

cc. Messrs. Calika, Fennell

Appraisal & Prep. of Projects

Messrs. Ballantine, Calika, Burt, Stewart, van Dijk,
Koulourianos, Lethem, Thint, Miss Grosse January 28, 1972

Mats Hultin

Treatment of Statistics in Appraisal Reports

1. I talked about the use of statistical data at the on-going department workshop on report writing. Before my presentation I reviewed some recent reports and noticed that several reports dealt with statistical data in a way which creates a wrong impression of accuracy. As such treatment of data makes the report vulnerable to criticism, both at Board presentation and later on at supervision and project evaluation, I would urge that we give it some attention.

2. Enrollment figures are often given to the last individual student enrolled. Even in countries with good educational statistics, the accuracy is not that high and I would, therefore, prefer a rounding of all global enrollment figures. When it comes to enrollment projections such a rounding is absolutely necessary, and even an accuracy to the nearest thousand is in fact often not achievable. It also happens that figures with different degrees of accuracy have been added without subsequent rounding.

3. "False" accuracies in manpower estimates also occur. In a recent report the teacher demands during the period 1970-82 are given as 10,840 and the supply as 11,085. In those cases, 11,000 would probably be a figure with less than a 10% accuracy.

4. Cost estimates should also be rounded. The basic cost calculations must, of course, use detailed estimates and figures. However, in my opinion, it is not appropriate as it is done in a recent report, to give a projected cost as US$ 9.296 million and add a contingency of US$ 2.495 million and arrive at a total of US$ 11.791 million. The contingency is supposed to describe the uncertainty in the calculation and can, therefore, by its nature not be given with four figure accuracy. The inaccuracy is, of course, revealed by the fact that actual costs later on may be found to differ 20-30% from the estimates.

MH/mms

Appraisal Cost x Prep. of Proj.

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

# OFFICE MEMORANDUM

TO: Files

DATE: February 29, 1972

FROM: Paul Duane and Herman G. van der Tak

SUBJECT: Mr. Bussery's Draft Paper on Project Approval

Our comments on Mr. Bussery's draft will deal largely with his references to the Bank's approach to project appraisal. Some comments are offered below on the draft as a whole, but their purpose is to put his treatment of the Bank's methodology into perspective and to give some impression of the draft's overall quality.

The author sets out to describe and compare the methods of project appraisal in developing countries as practiced by several national and international lending agencies or, more correctly, as set forth in their "manuals." His sources of information are as follows:

(i) the Manual of the United Kingdom's ODA (and the closely related Little Mirrlees Manual);

(ii) the Guidelines for capital project appraisal of the United States' AID;

(iii) the Operational Memoranda of the World Bank . . . although it is conceded that these do not constitute a manual;

(iv) the UNIDO Guidelines; and

(v) a work by Prou and Chervel ("Etablissement des programmes en économie sous-développée," Volume 3, "Etude des grappes de projets," Editions Dunod, Paris, 1970) which, according to Bussery, "provides a good indication of the approach taken by firms of consultants and more or less explicitly adopted by French cooperation organizations."

After describing and contrasting the general features of these different approaches in Chapter II, the author largely confines his detailed comparisons and critical analysis in Chapter III to two methods: the ODA method; and what he calls the "direct assessment" method put forward by Prou and Chervel. This narrowing of focus in the draft helps to reduce the number of Bussery's references to the Bank. Concomitantly, it also makes it somewhat less appropriate for the Bank to offer comments on Bussery's understanding of how the other agencies (mainly the ODA) go about their appraisals.

There are other probably more relevant reasons for limiting our comments on this paper overall. It lacks the strength which would come from the author expressing his own preferences clearly; i.e., it has no well-defined thesis. The author appears to rely entirely on his own perception of the several methodologies - his interpretations are not documented and there are no citations "from the literature" of other peoples' critical views on the issues discussed. The draft uses only a couple of illustrations and no algebraic expressions whatsoever to support its presentation of arguments or statements of fact. Finally, although the author appears to be well acquainted with his subject and expresses, in our view, many well-rounded judgments about the art of appraisal, his writing is obscure in numerous places, which makes it difficult to follow, let alone criticize many parts of his draft.

References to the Bank

The Bank is mentioned in twenty paragraphs throughout the draft, often only in passing. There are a number of paragraphs, however, that call for some comment.

Paragraph 5. It should be made quite clear that the Operational Policy Memoranda and the checklists, as well as other staff instructions not mentioned, are strictly internal documents which are not to be published, quoted or cited. As the paper points out later, in paragraph 23, they are not in any sense a manual. They do not give a complete treatment of the subjects covered and do not always give a complete or accurate account of the Bank's current practices. The reference to "a practical approach based more directly on the financial analysis of the project" is misleading and should be deleted.

Paragraphs 23 to 29, "Methods used by the World Bank," are in fact largely a thinly disguised paraphrasing of O.M. 2.21 and give, in part, a somewhat misleading account of what the Bank actually does. In paragraph 24, for example, it is suggested, inter alia for transport infrastructure, that initially project appraisal was essentially based on a financial analysis supplemented by a qualitative appraisal of its economic impact. As far as I can remember road projects have never been based on a financial analysis, but on an economic analysis of the cost savings and of the economic benefits involved in generated traffic.

These paragraphs do not give an adequate account of the distinction we make between financial and economic analysis, and of the various purposes of our financial analysis. Some of the references to our financial analysis are irrelevant for the topic of the paper, which is concerned with economic evaluation of projects. In paragraph 25 (Page 19), the sentence beginning with "The Bank's economic analysis is based on financial analysis (calculation of the internal rate of return) etc." is wrong and should be deleted.

What should be made clear is that in our economic analysis we often arrive at a better guesstimate of economic values by correcting market prices or ruling prices for taxes and subsidies. The suggested accounting prices, mentioned in the Operational Memorandum, of one-half to three-fourths of actual wages of unskilled labor and of an opportunity cost of capital of 8-14% have no official standing, and, at least, for wages other figures are used fairly often.

Paragraph 26 should indicate that consumer surplus concepts are used in some relevant cases, for example, in road projects. In other cases, they are left out, not as the paper says "in order to keep the estimated profitability of projects to a minimum," but in order to arrive at a minimum, or conservative, estimate of the economic return, and in view of difficulties of estimation.

Paragraph 27 should be clarified. In public utility projects where the Bank largely relies on a minimum cost criterion, the calculation is sometimes supplemented by an internal economic return, using revenues from additional output made possible by the investment as a proxy for gross benefits.

In Paragraph 29 it should be stressed that use of shadow prices has been evolving in the Bank over a long time. The sentence beginning "The method of Little and Mirrlees is being systematically tried etc." should be deleted. The last sentence should indicate that sensitivity analysis is systematically used in project appraisal by the Bank, with occasional more elaborate use of risk analysis.

Paragraph 59. The Bank uses the principle of opportunity cost to a much greater extent than suggested here. But, of course, reasonable people might differ about what its implications are in any particular case.

In Paragraph 81, Pages 54-55,it is not quite clear what is supposed to be the Bank's position. In brief, for traded commodities, where the border prices are relevant, the Bank would evaluate the benefits in terms of these border prices (which the paper assumes not to be affected by the project) and the question of consumer surpluses does not arise. For non-traded commodities, i.e. where domestic supply prices are below the cif import price but still too high to enable exports at fob prices, the Bank would recognize, in principle, possible consumer surplus gains, but, in practice, it would usually evaluate the benefits in terms of the ex-post price, thus arriving at a "minimum" return for the project. See earlier comment.

Paragraph 92. The treatment of income distribution and project analysis is being debated in the Bank, as elsewhere, but there is no consensus and income distribution effects are not, at present, included in the Bank's project analysis.

Paragraph 94. The statement that the Bank "has not made it clear whether its economic appraisal of projects is based on the point of view of the country receiving the loan, the developing countries as a whole, or the world economy" is somewhat misleading. Certainly the Bank's current practice of project analysis is based on the point of view of the country receiving the loan. Benefits accruing to other countries are not considered unless captured through the pricing mechanism or taxes. There have been staff suggestions that the Bank should pay more attention to the impact of, say, a cotton project on other developing countries (still ignoring the possible impact on the developed countries) but this is not part of our current appraisal practice.

Paragraph 95. See earlier comments on the Bank's treatment of consumer surpluses.

PDuane/HGvanderTak:lfb

cc: Mr. Baum
Mr. Henderson

Appraisal, Costs & Prep. of Projects

Mr. Bruce M. Cheek

February 29, 1972

Klaus Huber

Effects of Currency Realignments on Loan/Credit Amounts

1. This memorandum is to give you a first approximation of what the likely cost increases will be as a result of the recent currency realignments on all projects presently being executed in this division. How tentative these estimates are may be illustrated by the case of the Boké Project, where the consultants are already carrying out their third study to determine these cost increases after the previous extensive studies had come out with very different results.

2. Our analysis (see attachment) shows that, with the exception of Boké, the cost increases in absolute terms are not very substantial, the maximum being of the order of $0.6 million. However, by adding up the sum total of cost increases in all Bank projects presently in execution for one country and comparing it to, say, current public revenues, the burden for some countries becomes quite high. It amounts to $4 million or 7 percent of current revenues in Guinea, $1.4 million or 3.7 percent in Mali, $0.2 million or 2 percent in The Gambia, $0.5 million or 1.6 percent in Mauritania and $1.2 or 0.7 percent in Senegal.

3. A superficial review of the projects included in the attachment indicated that only in two cases, Gambia - Bathurst Port and the Boké Projects, were cost increases likely to occur as a result of something other than the dollar devaluation. In the case of the Boké Project, these cost increases are very substantial and are presently estimated at some $21 million, of which $5 million are in local currency not guaranteed by the sponsor and would, therefore, have to be financed by the Guinean Government, unless other sources can be found. The case of the Gambia Port Project was discussed in some detail in your memorandum to Mr. Knapp of February 10.

KHuber:jd

cc: Messrs. Chaufournier o/r
Lenfant
Division members

ANNEX

## DIVISION E: COST INCREASES DUE TO CURRENCY REALIGNMENTS

| Credit Number | Project | Amount Undisbursed ($ million) | Cost Increases ($ million) |
|---|---|---|---|
| 187-GM | Bathurst Port ($2.1 million) | 2.1 | 0.2 |
| 577-GUI<br>766-GUI | Boké ($73.5 million) | 28.9 | 4.0 |
| 95-MLI | Railway ($9.1 million) | 1.9 | 0.2 |
| 197-MLI | Highway Maintenance ($7.7 million) | 5.6 | 0.6 |
| 277-MLI | Rice Development | 6.9 | 0.6 |
| 69-MAU | Roads ($6.7 million) | -- | |
| 195-MAU | Road Maintenance ($3.0 million) | 1.2 | 0.1 |
| 273-MAU | Livestock ($4.15 million) | 4.15 | 0.4 |
| 140-SE | Agriculture Credit ($6.0 million) | 2.97 | 0.3 |
| 252-SE | Casamance Rice ($3.7 million) | 3.7 | 0.3 |
| 254-SE | Terres Neuves ($1.35 million) | 1.35 | 0.1 |
| 96-SE | Railway ($9.0 million) | 1.6 | 0.1 |
| 198-SE | Highway ($2.1 million) | 1.9 | 0.2 |
| 253-SE | Education ($2.0 million) | 2.0 | 0.2 |
| 493-SE | Port of Dakar ($4.0 million) | 1.4 | 0.1 |

February 29, 1972

V Appraisal Cost x Prep of Proj
cc sector Program Papers
cc Choice of Prices in Project Analysis
cc Employment / Unemployment
cc Income Distribution

Distribution list February 29, 1972

Herman G. van der Tak

Agenda, Steering Group, Sector and Projects Economics

In the next several months the Steering Group expects to consider the following issues:

1. Little/Mirrlees and all that.

(i) Expository paper of the basic equivalence of Little/Mirrlees and other project appraisal methods, such as the "Bank Method" and Bruno, is in progress. Draft paper by Mr. Deepak Lal expected in March, and to be discussed during the author's stay in the Bank during March/April.

(ii) Case studies of operational differences, if any, between various methods will, initially, deal with agricultural and industrial projects, in the course of regular appraisals. Work being organized, in cooperation between Agriculture and Industrial Projects Departments and the Economics Department. Agricultural project to be taken up in the spring; industrial project in May/June if suitable appraisal materializes and staff constraint can be overcome, otherwise probably not before the fall.

2. Sector Work.

Recent discussions have made clear that a broader consideration of the purposes and programming of sector studies would be helpful. What kind of questions should they focus on? What is their relation to country economic work, to project identification and selection, and to lending policies? What should be done to ensure their maximum impact on the work of the Bank, and to make them responsive to the needs of Projects and Area Departments? What procedures are necessary for programming and scheduling sector studies? Relation between basic reviews and other sector work. Input from Area Departments in sector studies and from Projects Departments in economic reports. Procedures for adequate review of sector content of CPPs, and the role of sector briefs. Messrs. Tims and van der Tak will, in the next few months, prepare a discussion paper on this set of topics, in consultation with the Departments concerned.

3. Shadow Pricing.

Use of shadow pricing raises several issues:

(i) How can we make reasonable estimates for shadow prices of capital, foreign exchange, and labor;

(ii) What are the pitfalls of partial application of shadow pricing, for example, in the public sector but not in the private sector, or in some projects but not in others?

It is intended that Deepak Lal follow up his present assignment on Little/Mirrlees (see 1 above) with discussion papers on these two topics.

Another issue is:

(iii) How can we ensure that shadow pricing is done reasonably consistently between projects and sectors in a particular country, and that the same approaches are followed in different countries and by the various departments. Should Area Departments be responsible for making best guesstimates of shadow prices for use by Projects Departments?

Mr. Tims has undertaken to explore these questions with the Area Departments.

A final question is

(iv) How do we make sure that shadow pricing is not just "cosmetics" applied during the final project appraisal but an integral part of the work on sector policies and strategies and project selection and design. This will be touched on in the paper (sub 2) above, but the question requires probably further examination.

4. Employment/Income Distribution in Sector and Project Analysis.

A policy paper on employment is currently being prepared by the Economics Department (Mr. Turnham), for subsequent discussion by the Board. A possible policy paper on income distribution and social objectives in development is under consideration by the Chenery Steering Group on Development Strategy and Policy. The Development Research Center (Mrs. Adelman) is working on income distribution problems. The scope and coverage of these several activities should become clearer in the next few weeks. It seems likely, however, that the question how concern with employment and income distribution is to be reflected in our sector and project work will need further attention. (Some staff guidance on the treatment of employment in project appraisal reports is given in a recent (draft) Projects Departments' Director's Memorandum.)

HCvanderTak:lfb

cc: Messrs. Ballantine, Evans, Fuchs, Kanagaratnam, Knox, Koch, Sadove, Weiner
Messrs. Collier, de Vries, Gilmartin, Blobel, Maiss, Kuczynski, Avramovic, Gulhati, Qureshi
Messrs. Chenery, Hayes, Henderson, Stern, Haq, B.B. King, Reutlinger, Tims, Mrs. Adelman, Mrs. Hughes
Messrs. Chadenet, Baum, Ripman, Rovani
Messrs. Cope, Williams
Messrs. J. Adler and Schulmann

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NOvander:mlb

cc: Messrs. Baneth, Evans, Fuchs, Kamarck, Knox, Koch, Sadove, Weiss
Messrs. Chenery, de Vries, Ginsburgh, Hlobol, Matas, Kuczynski, Avramovic, Gulhati, Qureshi
Messrs. Chenery, Reyes, Henderson, Stern, Heal, B.B. King, Burtlinger, Time, Mrs. Adelman, Mrs. Hughes
Messrs. Chadenet, Daun, Nyman, Rovani
Messrs. Cope, Williams
Messrs. J. Adler and Schulmann

Appraisal-Cost & Preparation of Projects

Mr. D. J. Wood

February 23, 1972

Nobuo Takaramura

The treatment of inflation and working capital in DFCs' project appraisal Reports

Please refer to Mr. Gulhati's memo of February 11. Concerning the above, the experience of the DFCs in Division IV -- DFCC, ICICI, IDBP, IMDBI, PICIC -- is as follows:

1. Inflation: There is no explicit reference on the record how DFCs treat the problem of inflation in the appraisal reports. Based on the forecast in such reports, it seems that constant prices are used. In their forecasts, DFCs assume constant figures after capacity utilization has been reached, i.e. usually after the third year. ( DFCC, however, follows no uniform methodology, at least as judged from the appraisal reports in our files.) The only notable exceptions are estimates for wages and salaries which are increasing also after the third year (IDBP for instance assumes a 5% increase p.a.); but these estimates could be considered as increases in real wages.

2. Working Capital Requirement: In their estimates for project financing on the one hand and the cost of the project on the other, ICICI, IMDBI and PICIC estimate working capital requirements under full capacity operations, whereas DFCC and IDBP estimate initial working capital requirements for the first year or, sometimes, the first two years.

ELoeschner:ad Takaramura:ad

cc: Mr. Gulhati

Appraisal-Cost x Preparation of
Page 62

Mr. D. J. Wood

February 23, 1972

Nobuo Takaramura

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Clearance: Takaramura:ad

cc: Mr. Gulhati

Appraisal - Cost x Prep & Proj -

Mr. S. J. G. Burt

February 23, 1972

D. H. Lewis

Analyses of Construction Costs - as bases for
Project Foreign Exchange Calculations

1. With reference to the discussion in our recent divisional staff meeting concerning the availability of data to support foreign exchange components allowed for in the costing of our projects, I attach, for your information, analyses of construction costs in (a) China, (b) Thailand and (c) Singapore which were prepared during project appraisals for the purpose of determining the foreign exchange components of construction elements. The estimated local and foreign cost components for the materials and labor factors of every major construction operation (i.e. excavation, concreting, walling, etc.) are indicated as percentages of total construction costs including overheads. The sum of the percentages relating to (i) imported materials and (ii) the indirect foreign costs of labor expresses in each case the foreign exchange component of construction as a whole.

2. Each of the attached analyses represents an averaging of data obtained from a number of sources - e.g., local practicing architects, contractors, government departments concerned with construction, etc.

3. Mr. Venkateswaran has filed copies of these analyses with related architectural worksheets and other reference documents for the projects concerned.

cc. Messrs. Hammerschmidt, Naimie, Stam, Welter, Venkateswaran
DHLewis:ldz

Appraisal Cost x Proj - Proj

February 23, 1972

Mr. Marc Tejtel
Graduate School of Management
Vanderbilt University
Nashville, Tennessee 37203

Dear Mr. Tejtel:

Thank you for your letter of February 15. Since the publication of my monograph on techniques of project appraisal, there have been several tentative applications of risk analysis to project appraisals. The major thrust has been in the appraisal of road and port projects. These are described in another World Bank publication: "Risk Analysis in Project Appraisal" by Louis Pouliquen. This book can be obtained directly from the publisher, the Johns Hopkins Press.

Applications to livestock, and irrigation, have also been made. These, however, have not been documented. The use of risk analysis in project appraisal has expanded considerably during the past few years, and the prospects for the long run should be for more applications.

You may want to contact oil companies, North American Rockwell, and Rand Corporation. Extensive work has been done on use of risk analysis by these groups.

Best wishes,

Sincerely yours,

Shlomo Reutlinger
Chief, Agriculture and Rural Development Division
Economics Department

cc: Mr. L. Pouliquen

THusain:SReutlinger:di

Cameroon - Loan 593 Admin.
& Appraisal, Cost & Preparation of Projects

Mr. Hugh B. Ripman

February 18, 1972

Roger Chaufournier

Cost Overruns

I have just noted from a supervision report on Cameroon, dated February 10, 1972 (Loan 593 CM) that a cost overrun of some 40% is expected on the East Cameroon Oil Palm project.

I am increasingly concerned about the frequency of occurrences of cost overruns in projects in West Africa, (Port of Bathurst, Bokema Road in Sierra Leone, etc.).

Could you tell me whether :

(a) this is unusual in relation to overall Bank experience?

(b) what conclusions do you derive from supervision missions?

(c) whether it verifies the conclusions reached by the European Development Fund in their recent study?

By the way, I would like to send some reaction to FED on their study which they were kind enough to give us for comment.

cc: Messrs. Chadenet
Cheek
Steckhan

RChaufournier:sm

Appraisal, Cost x Resp. de Proj.

VANDERBILT UNIVERSITY

NASHVILLE, TENNESSEE 37203 TELEPHONE 322-7311 AREA 615

*Graduate School of Management • 2505 West End Avenue • Direct phone 322-2534*

Nashville 2/I5/72

Mr Shlomo Reutlinger

World Bank

Dear Sir,

As a french teaching assistant at the Graduate School of Management ,Vanderbilt U.,I am writing a thesis on "Risk Analysis in the long Term". I have read with considerable interest your World Bank book on"Techniques for project appraisal under uncertainty",and further information on risk assesment or coping with uncertainty in World Bank activities would be extremely valuable to me.

I thank you in advance for any information you could provide me with.

Sincerely yours,

Marc Tejtel

Marc TEJTEL

G.S.M. Vanderbilt U.

Nashville,Tenn.

/37203

Appraisal & Prep of Projects

INTERNATIONAL DEVELOPMENT ASSOCIATION | INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT | INTERNATIONAL FINANCE CORPORATION

# OFFICE MEMORANDUM

TO: Files

DATE: February 11, 1972

FROM: D. J. Wood

SUBJECT: Project Evaluation of DFCs: Case Study Materials

1. On February 9, 1972, a meeting was held in Mr. Gulhati's office attended by Mr. Gittinger (EDI), Mr. J. Hansen (Economics of Industry Divisim) Mr. Gulhati and myself to discuss ways and means of developing case study materials which could, after initial testing in a seminar in DFCD, be used in EDI Industrial Projects courses and perhaps also in our dealings with DFCs.

2. The original suggestion for case studies emerged from the recent seminar we held in DFCD to discuss approaches to economic project appraisal, (based on two papers prepared by Mr. Hansen). I felt that the seminar, while useful and certainly interesting to participants, suffered at times from a tendency to drift away from the topic at hand. Also some of the questions asked revealed a strong desire to establish the operational implications of the discussion, that is, to show how it could be applied in particular cases. A case study approach seemed to offer a possible solution to these problems by focusing attention on a concrete situation and guiding the discussion through a series of rather specific questions. The immediate question arose as to how such a case study could be prepared. Mr. Gulhati took the question up with Mr. Kamarck, and, as a result of that talk, the above mentioned meeting was arranged.

3. It quickly became clear that both the DFCD and the EDI could benefit from the development of case studies. Three different steps in constructing a study were discussed. First, the points to be brought out in the case studies may must be identified. Mr. Gulhati mentioned some issues of interest and Mr. Hansen agreed to note down a list of points for Mr. Gittinger. Secondly, materials must be selected. Here a distinction was drawn between materials which describe the general framework within which the selection of appropriate economic appraisal techniques have to be made and materials which illustrate how individual techniques should be applied. The former type of material should be readily available whereas the latter type may pose more problems. Thirdly, a list of questions must be drawn up which bring out the major points inherent in the case materials.

4. Mr. Gittinger noted that Messrs. Lamson-Scribner and von Stauffenberg, the two EDI staff members directly concerned with industrial projects courses, were presently away from Washington. He said that when they returned he would ask them to contact me. In return for assistance in defining the points to be brought out, in helping to draw up a list of questions, and in holding a departmental seminar where the case material could be tested in practice, Mr. Gittinger felt sure that either Mr. Lamson-Scribner or Mr. von Stauffenberg would take the lead in assembling and refining case studies illustrating the principles and techniques of economic project evaluation.

cc Messrs. Diamond
Gordon
Gustafson

Messrs. Kamarck
Gittinger
Lamson-Scribner
von Stauffenberg
Hansen
Mrs. Hughes

DJW/mo

appraisal - Preparation of Projects

Mr. S. Shahid Husain

February 10, 1972

Roger A. Hornstein

Your Memorandum February 1, 1972 re Timing Taken for Processing Projects

Please refer to your memorandum of February 1, 1972 mentioned above. I am attaching a copy of a note from Mr. Kaji relating to items 1 (Nairobi Water Supply), 2 (Kenya Kamburu) and 6 (Uganda Tobacco), all of which he worked on.

With respect to the others, my comments are as follows:

Item 3: Tanzania (Kidatu Power Project)

The time between the end of negotiations and approval of the documents of about two months is our normal experience in the East African countries. In this particular case which involved a joint financing with SIDA of Sweden, the Swedish Cabinet did not approve the documents until about two weeks after final action was taken by the Tanzanian parties.

Item 4: Tanzania (Third Education Project)

The information on the table attached to your memorandum with respect to the time between yellow cover and green cover appears to be erroneous; the yellow cover is dated June 25, 1970, and the green is dated July 15, 1970 and was available on July 21, 1970. In either event, less than thirty days elapsed between yellow and green. With respect to the time between end of negotiations and approval of documents, the main reason for the delay seems to be that the Government requested deletion of part of the project some time after negotiations were completed. This required changes in the appraisal report and in the negotiated documents; the latter, of course, had to be cleared with the Tanzanian authorities.

Item 5: Tanzania (Flue-cured Tobacco Project)

The delay between end of negotiations and agreement on documents was occasioned principally by the fact that Government had to submit a letter relating to the financial structure of NCDA (the credit agency) which involved rather difficult policy questions

within Tanzania. In addition, action on documents had to be taken by three autonomous entities as well as the Government. With respect to the delay between the approval of documents and Board presentation, questions were raised by the American Government with respect to the possible effect of the project on tobacco markets; it was considered advisable that additional work be done on this matter and an appropriate representative of the Economics Department be available to answer possible questions on marketing at the Board meeting.

In addition to Mr. Kaji's comments on the Kamburu Power Project in Kenya, I would like to add that this was a project on which we worked very closely with the Kenya Government on the steps they were taking to acquire a majority interest in the power industry and on the financing plan for the project; discussions were held in Kenya on a regular basis from the time of the original appraisal mission in April 1970 until the material necessary to complete the yellow cover was made available late in the year. The figures based on the timetables would not adequately reflect the actual situation in a complex negotiation of this kind.

Attachment

RAHornstein:pe

Mr. Hornstein:

Time taken for processing projects

You asked me to comment on Mr. Husain's memorandum to you dated February 1, 1972. The three projects which I was involved with were:

1. Nairobi Water Supply:

(a) Between green and invitation to negotiate:
Green Cover was dated April 14 and Area Memo to Loan Committee was distributed on May 1, 1970. We expected to invite negotiators in May (Timetable dated April 22, 1970). This was the Bank's first lending to a municipality and a Loan Committee meeting was held. There was considerable discussion on some of the financial covenants proposed with a view to segregating the Water Supply Department from the other operations of the NCC. This led to (under the instructions of the Chairman, Loan Committee) reconsideration of the proposals within Projects Department (Timetable dated May 21, 1970). The revised proposals were agreed with the Chairman Loan Committee and invitation was finally issued June 5, 1970.

(b) Between end of negotiation and agreement on documents.
This involved:
(i) approval of documents by the City Council and Minister for Local Government;
(ii) approval of documents by Government including legislative action on Guarantee;
(iii) completion of action for acquisition of land required for project.

There were considerable delays in completing (ii) and (iii). The details are set forth in Mr. Lejeune's memorandum to Mr. McNamara dated October 7, 1970 and Mr. Lejeune's cable to Minister Kibaki of October 8, 1970. The essential problem was the Parliament recessing before action on (ii) could be completed and hold ups in conveying information to us.

(c) Between approval of documents and Board.

Due to problems in (b) above Board date had to be postponed twice. When we were informed that agreement on documents was likely by mid-October, we scheduled Board presentation for November 17. The approvals were received slightly earlier but we did not change Board date.

2. Kenya: Kamburu

(a) Between return of appraisal mission and yellow cover.

At the time of appraisal the Government had not decided on (i) the organization which would undertake the project and (ii) the financing plan. The Government was contemplating a takeover of the power companies and hence we had to await the outcome of this before completing appraisal. Appraisal was not in fact completed until November 1971. (The timetables for the period April to October 1971 give month-to-month details.)

(b) Between negotiation and agreement on documents. The matters involved were:
(i) approval of documents by Board of three power companies;
(ii) approval of documents by Government and legislative action on Guarantee;
(iii) agreement by existing creditors to share security with the Bank.

Apart from the complication in (i) and (iii) we again ran into the Parliament recess in respect of (ii).

3. Uganda Tobacco (Tea?)

Between agreement on documents and Board.

The Obote regime passed the nationalization act. IFC investment was involved. Board consideration delayed pending El Emary/Richards (IFC) mission and agreement on treatment of IFC investment.

Gautam S. Kaji

February 2, 1972

appraisal & Post-of Projects

Mr. Bruce M. Cheek

January 26, 1972

Stephen C. Schott

Effect of currency revaluation on project costs

1. You requested that we prepare an evaluation of the effect of currency revaluation on the cost, cost sharing and benefits of projects for which loans or credits have been made. The attached country summaries review our outstanding loans and credits. The only serious cases revealed are the Ivory Coast Education project, the Upper Volta Cotton project and the Dahomey Grand Hinvi project. Both the Education and Grand Hinvi projects were in financial difficulties before the currency revaluations.

2. With regard to the cocoa project in the Ivory Coast, I shall request Mr. Bourgin who arrives in Abidjan, February 2, to consider the effect of revaluation on the project. The same request will be made to Mr. Tillier who leaves this week to supervise the oil palm and coconut projects in the Ivory Coast. In the near future, other supervision missions should be requested to comment on the effects of revaluation.

SCSchott:tp

Mr. Bruce H. Oheek

January 26, 1972

Stephen C. Babcock

Effect of currency revaluation on project costs

1. You requested that we prepare an evaluation of the effect of currency revaluation on the cost, cost sharing and benefits of projects for which loans or credits have been made. The attached country summaries review our outstanding loans and credits. The only serious cases revealed are the Ivory Coast Education project, the Upper Volta Cotton project and the Dahomey Grand Hinvi project. Both the Education and Grand Hinvi projects were in financial difficulties before the currency revaluations.

2. With regard to the cocoa project in the Ivory Coast, I shall request Mr. Bourgin who arrives in Abidjan, February 2, to consider the effect of revaluation on the project. The same request will be made to Mr. Tuller who leaves this week to supervise the oil palm and coconut projects in the Ivory Coast. In the near future, other supervision missions should be requested to comment on the effects of revaluation.

SCBabcock:ep

Appraisal & Preparation of Projects

Mr. S. Shahid Husain

February 10, 1972

Thomas U. Halbe

Time Taken for Processing Projects

In reply to your memo dated February 1, 1972, I have the following comments:

1. Zaire River Transport:

The time elapsed between green cover and invitation to negotiate was 25 days. This was due to (i) the green cover coming out dated March 8, 1971; however, we did receive it only about 4 days later; (ii) the draft President's Report on this complex project required several reviews by Mr. Williams; (iii) preparation of the legal draft required protracted discussions between Projects Department, Legal, and Area about the financial clauses to be inserted in the credit agreement; (iv) the belated final approval of the legal draft in English delayed in turn the preparation of the French translation of the draft credit agreement.

2. Madagascar Lake Alaotra Project:

The time elapsed between green cover and invitation to negotiate was 84 days. The green cover appraisal report was completed at the end of March 1971, but it recommended that prior to inviting for negotiations, the final project layout should have been received from the consultants and reviewed by the Association. The layout documents were received in early June 1971 and invitationtto negotiate was sent on June 17, 1971.

Th.U.Halbe:acc

Appraisal & Rep. of Projects

Mr. S. Shahid Husain

February 9, 1972

Howard E. Tolley

Time taken for processing projects

1. I refer to your memorandum dated February 1, 1972.

Ethiopia Second Education Credit

2. The main reason for the delay between the yellow and green cover reports was the disagreement between the Government and IDA as well as between the Education Projects and the Eastern Africa Departments on the question of educational policies and priorities. The central issue was the number of secondary school places to be provided in the proposed project and whether some of these places should be in rural areas. The Education Projects Department was against expansion of secondary school facilities, other than limited extensions to existing schools, which were located mainly in urban areas, until results of the education sector review were available, whereas the Government was keen to have a larger expansion in order to relieve the congestion in existing schools and in order to begin to relieve the rural/urban imbalance in educational opportunities. The Eastern Africa Department generally supported the Government's position.

3. Two meetings were held with Mr. Aldewereld followed by a special Loan Committee meeting in an attempt to resolve the differences. It was decided at the special Loan Committee meeting to limit additional secondary places to the extensions to existing schools and to initiate action for the preparation of an additional project to provide post-primary practical training with emphasis on agricultural training in rural areas. (Subsequently during negotiations, the Minister of Education, leader of the Ethiopian delegation, made a personal representation to Mr. Knapp following which it was decided to restore rural secondary schools to the Second Education Credit.)

4. The time between negotiations and approval of documents for Ethiopian projects is usually fairly long due to the requirement that the negotiated documents must be discussed and approved by the Council of Ministers. However, there was a further delay in this particular case because, subsequent to negotiations, the Government requested financing of additional technical assistance for a manpower survey. We agreed to the request, and this required a revision in the documents before they could be submitted to the Council of Ministers for approval.

Somalia Education

5. There were two reasons for the delay between green cover and invitation to negotiate:

a) Shortly after the green cover report was issued, we were informed that the technical assistance - to be provided by UNDP - could not be approved by UNDP as soon as had

been anticipated in the green cover report. This necessitated reconsideration of the timing and procedures for implementing the project and, consequently, the draft credit documents had to be amended.

b) After the project was submitted to the Loan Committee, authorization to invite negotiators was withheld pending consideration of whether IDA, as a matter of policy, should finance 90% of project cost and clarification of whether or not any taxes were included in the cost estimates.

6. After agreement on the credit documents, Board presentation was delayed pending settlement of outstanding questions of Somalia's external debt.

PRoeloffs/MAJalil/HETolley:tj

Appraisal & Preparation of Projects

Mr. A. David Knox

February 3, 1972

P. O. Malone

Appraisal Procedure

1. Reference our earlier correspondence, I discussed the processing of appraisal reports with Harold Messenger, who in turn discussed it with Mr. Baum. The latter agreed that Messenger's Division should devote some time to looking at the procedure, although apparently he was not overly optimistic of the outcome.

2. Meanwhile, the McKinsey exercise is getting under way. I gather from Harold Messenger that the McKinsey team will be looking at the appraisal report as a major decision-making tool though possibly the team will not get involved too much in the procedures by which the report is produced. I think Messenger feels now that we should not move too quickly on a critical look of the procedure at least until we see the results of the McKinsey work.

3. I am attaching a copy of the appraisal procedure flow diagram for your retention as you requested.

POMalone:pg

Attachment

Appraisal & Preparation of Project

Mr. Howard E. Tolley

February 1, 1972

S. Shahid Husain

Time taken for processing projects

Attached please find an analysis Mr. de Jong has done of the time it has taken for projects in fiscal 71 between the departure of appraisal missions and presentation to the Board. I am struck by the time it has taken to process some of the projects in Ethiopia and Somalia; in particular:

1. Ethiopia Education - between yellow cover and green cover: 83 days; between end of negotiations and approval of documents: 61 days.

2. Somalia Education - between green cover and invitation to negotiate: 65 days; between agreement on documents and Board presentation: 49 days.

I would appreciate your letting me know what the reason in each case was for the time taken for the steps mentioned above.

SSHusain:ab

Appraisal & Preparation of Projects

Mr. John M. Malone, Jr.

February 1, 1972

S. Shahid Husain

Time taken for processing projects

Attached please find an analysis Mr. de Jong has done of the time it has taken for projects in fiscal 71 between the departure of appraisal missions and presentation to the Board. I am struck by the time it has taken to process the following project:

Mauritius Tea - between green cover and invitation to negotiate : 54 days.

I would appreciate your letting me know what the reason was for this delay.

SSHusain:ab

Appraisal & Prep. of Projects

Mr. Roger A. Hornstein

February 1, 1972

S. Shahid Husain

Time taken for processing projects

Attached please find an analysis Mr. de Jong has done of the time it has taken for projects in fiscal 71 between the departure of appraisal missions and presentation to the Board. I am struck by the time it has taken to process some of the projects in Kenya, Tanzania and Uganda: in particular the following:

1. Nairobi Water Supply - between green cover and invitation to negotiate: 51 days; between end of negot. and agreement on doc.:98 days; between appro. of doc. and Board: 40 days.
2. Kenya Kamburu - between return of appraisal mission and yellow cover: 312 days; between end of negotiations and agreement on documents: 57 days.
3. Kenya Kidatu - between end of negotiations and agreement on documents: 69 days.
4. Tanzania Education - between yellow cover and green cover: 36 days; between end of negotiations and agreement on documents: 116 days.
5. Tanzania Tobacco - between end of negotiations and agreement on documents: 119 days; between agreement on documents and Board presentation: 50 days.
6. Uganda Tea - between agreement on documents and Board presentation: 86 days.

I would appreciate your letting me know what the reason in each case was for the time taken for the steps mentioned above.

SHusain:ab

FOR
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...shington, D.C., U.S.A.

DECIDE
Re Appraisal Rep. of Projects

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
Cable Address - INTBAFRAD PARIS

INTERNATIONAL DEVELOPMENT ASSOCIATION
Cable Address - INDEVAS PARIS

EUROPEAN OFFICE:
66, AVENUE D'IÉNA, 75-PARIS 16E - FRANCE
Telephone - 720.25.10

January 28, 1972

Dear Dick,

Attached is copy of a study on methods of project appraisal prepared for the DAC Secretariat by Mr. Bussery. You will recall, of course, that project appraisal has been the subject of previous discussions already at the DAC. In the study the Bank is referred to in quite a few instances, with the main substantive passages appearing on pages 18 to 22 and 61, and with further passing remarks on pages 37, 38, 42, 60, 62, 76 and 81. I had a quick look at the paper and found no gross misstatements about us. The DAC Secretariat would of course like to receive our detailed comments, not only regarding the references to the Bank but concerning the whole paper. In the meantime they would like to circulate the paper in draft form. In view of this, I suggested to Vincent that in his covering note he should state that the IBRD, as possibly other institutions referred to, did not have an opportunity yet to comment on the draft.

Best regards,

Sincerely yours,

Fritz Steuber

Mr. Richard H. Demuth
Director
Development Services Department
International Bank for
Reconstruction and Development
Washington, D.C. 20433

COST
Appraisals & Preparation of Projects

Mr. Hans Adler

January 24, 1972

Tariq Husain T.H

Effect of Recent Currency Realignment on Projects' Cost Estimates

1. How has the recent currency realignment affected cost estimates that were made before the alignment? Should these estimates be adjusted? If so, in what direction (upward or downward) and by what percentage? This is an issue not only in the case of the Melka Sadi Amibara project, but also generally for all other projects in the pipeline at this time. My view is that estimates denominated in US dollars (the usual case in all our appraisal reports) should be revised upward. The extent of the revision will depend on the composition of the import bill. The bare skeleton of the arguments for this view are given below.

2. Let the CIF price of goods X in country Y before the realignment be US$100. After the realignment (with US$ devalued) the CIF price of goods X in country Y will depend on:

- the origin of goods X
- the import content of goods X
- the pricing policy of the exporters, and
- the price elasticity of goods X in the importing country.

For the sake of simplicity let us assume that the goods could either originate in the U.S. or outside U.S.A. (Europe, Japan).

Goods Originate in the U.S.

3. If the goods originate in the U.S. the new CIF price will depend on:

a) the import content of goods X, and
b) the origin of the imported inputs for producing X.

(1) If the import content is insignificant the CIF price may remain at US$100: (a) if the prealignment price of U.S. produced goods X was not competitive and/or (b) the exporter's pricing policy so dictated. In the first case the devaluation of the U.S.$ may have made the U.S. produced goods X just competitive leaving little room for a price increase. In the second case, depending on the goods and the market the exporter may hold the price lower for increasing market share. However, if the price of U.S. produced goods X was competitive before the realignment the U.S. exporter will be inclined to raise the price to come in line with the higher (due to revaluation) price of goods X produced outside U.S. That is, the post-realignment price of goods X is likely to be more than US$100.

(2) If, however, the import content of goods X is significant and the imports come from countries (Europe, Japan) which have revalued

with respect to the U.S. dollar the production cost of goods X will increase. This may lead to supplier switching and other adjustments but in the short run the CIF price is likely to be increased as a consequence. The extent of the increase would depend on the competitiveness of the pre-alignment price of goods X, elasticity of supplier switching, etc. If the goods were compstitive before, their price is likely to be increased to come in line with the price of goods X produced elsewhere which due to revaluation is likely to be higher. Unless, of course, exporters in those other countries absorb the effect of the revaluation in their profits by keeping relative prices unchanged or slightly changed. The dynamics of all this is complex, but as a first approximation the ¢ price of goods X is likely to be increased as a result of the currency realignment even when it is produced in the U.S. Two circumstances in which this may not happen are (1) when the pre-alignment U.S. price was not competitive and (2) the exporter chose to maintain the price for market share or other objectives.

Goods Originate outside the U.S.

4. If the goods originate outside U.S. the new CIF price of goods X will also depend on:

a) its import content, and
b) the origin of the imports for producing X.

If the import content is insignificant the CIF price will be increased due to the revaluation. For example, if the goods originate in West Germany, and assuming that the pre-alignment price was 360 Marks (US$100 at the pre-alignment rate) the new German price will be 360 Marks but the dollar price will be 18% higher, i.e. US$118.00. If, however, the import content is significant then the production cost may be increased or decreased due to the realignment depending on the origin of the imports. If most or all of the inputs imported for producing X came from the U.S. the production cost will decrease - probably leading to a decrease in prices as well. However, if inputs are imported from a number of different countries the net effect would depend on the overall alignment of the various currencies. If the currency realignment works, trade patterns are likely to change to accommodate the new relative prices. Imports from the U.S. may increase leading to a lower cost of production and thus a lower price. In the medium haul, therefore, the price of goods X produced outside the U.S. is likely to be lower than the fully revalued price. Similarly, the price of goods X produced in the U.S. is likely to be higher than the pre-alignment price. The proximate equilibrium price is likely to be between the pre-alignment price and the fully revalued price - that is between US$100 and US$118.

5. One obvious example is that of cost of consultants paid in dollars but hired to work in countries which have revalued. If the pre-alignment cost was US$50 thousand the post-alignment cost will be between US$55 to 60 thousand. In this case, since the numeraire (the U.S. dollar) has been devalued the quantity of the numeraire must be increased to provide the same value. That means, that project cost estimates denominated in U.S. dollars must be revised upwards simply because each U.S. dollar is worth less.

6. I would like to get your reactions to these arguments.

THusain:mw

cc: Messrs. ffrench-Mullen
Golan
Meimaris
Parish
Reutlinger

6. I would like to get your reactions to these arguments.

Thanks again.

cc: Messrs. Fremont-Smith
Golan
Meinardi
Parish
Rentzinger

Appraisal & Prep. of Projects

Mr. H. A. Adler

January 24, 1972

D.W.M. Haynes

Data on Water Charges

1. With reference to your memorandum of January 11, 1972, I attach data on eight projects of the thirteen projects supervised by this division together with a note by Mr. de Ponteves on the difficulties encountered in this exercise. We may be able to produce data on Khairpur later. The information given in the report on the First Rehabilitation Project in Indonesia is not adequate for analysis. Similarly, the appraisal reports on the 1961/63 projects in India do not include sufficient information: however, the ongoing evaluations by Mr. Reutlinger may throw some light on cost recovery at Purna and Sone.

2. While the data on past projects reveals our intentions, I fear that it will prove misleading since the actual covenants contain so many qualifications, e.g. "a reasonable proportion", "with (unspecified) interest", or "having due regard to the farmers ability to repay". This division is responsible for most of the Islamic countries. I think it is fair to say that they resent cost recovery covenants as much, if not more than, management approval covenants. I also think it is fair to say that, during negotiations they stand firm until we agree to wording which is so qualified that no default could be proven during the disbursement period if, indeed, ever.

3. So far as future projects are concerned, I think that insistence on this form of presentation will be a useful discipline for appraisal missions. It will facilitate review and provide a better background for the discussions and negotiation of cost recovery covenants.

Attachment

DWMHaynes:ak

cc: Mr. Wapenhans

Central files

Appraisal, Cost & Preparation of Projects

Mr. Mervyn L. Weiner

January 13, 1972

M. A. Saeed

Comments on Table IVK, "Operations Program and Project Processing Capacity"

1. In view of the surprising "spare capacity" projected for our department in Table IVK prepared by the Programming and Budgeting department, you asked me to examine these projections. I have done so and find that the indicated projections of spare capacity are misleading because of the odd way "Project Processing Capacity" (PPC) has been defined.

2. If a concept of current PPC has to be introduced, it should be based on the gross work program, after adjustment for the results of the recruitment efforts and changes in the rest of the work program. This is not now the case.

3. The figures for FY 72 and FY 73 given in IVK, according to the footnote, "are taken from work programs developed during preparation of the FY 72 budget." However they are in fact different, as shown below:

| | FY 72 | | | FY 73 | | |
|---|---|---|---|---|---|---|
| | I Work Program Net 1/ | II Work Program Gross 2/ | III "PPC" | I Work Program Net | II Work Program Gross | III "PPC" |
| Power | 19 | 22 | 25 | 20 | 26 | 30 |
| Telecom | 8 | 10 | 12 | 9 | 10 | 15 |
| Water | 8 | 12 | 11 | 10 | 17 | 14 |
| | 35 | 44 | 48 | 39 | 53 | 59 |

4. If "Project Processing Capacity" (PPC) denotes our ability to bring projects to the Board, then the first column should be taken as PPC. If we are thinking of the maximum number of Loan/Credit timetables which can be handled, then the second column should be used, unless some unusual situation has resulted in spare capacity for a period, which is not the case. Anything higher than the gross number is too high. Furthermore, if the results of the recruitment efforts fall short of the targets, the actual "capacity" would be lower than the work program figures.

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1/ Figures shown for Board Presentation in the final version of the work program table, dated 5/19/71; also shown at the bottom of the same table as "Loans approved by Board in FY".

2/ Total of "Appraisal-Completion" and "Appraisal-Full" in the work program table. The figures represent the gross program and include an allowance for slippage.

5. I talked to Mr. Gillette of P&B about the difference in the figures. He said that projects slipping from one year to the other were added to the gross numbers from the work program tables to arrive at PPC. The problems with this approach are the following:

(i) Slippage of projects from one year to the other is already taken into account in calculating the gross program. Section III of our budget memo to Mr. Adler, dated February 5, 1971 makes that quite explicit.

(ii) Even if the specific projects which slip turn out to be different from those expected, this only changes the number of timetables and does not change the "capacity". The capacity can change only if the available manpower is higher or lower than expected.

(iii) It ignores the fact that appraisal accounts for only one third of the staff time. The capacity to process projects cannot be calculated without taking all other work into account. If a current estimate is to be used in preference to the gross number in the budget, it can only be derived by reworking the whole work program table.

M.A.Saeed/dcs

Mr. Mervyn I. Weiner January 13, 1972

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M.A.Saeed/dce