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This file is closed as of **Aug 31, 1975**.

For further correspondence, please see **Vol. II**.
Bank Policies in Education and in Training Related to Agriculture

1. Staff of the Education Department have called attention, on occasions, during the past year to some inconsistencies in policies advocated by educators and agriculturists in the Bank in education and in training related to agriculture. A particular issue is the training and use of extension workers.

2. The other day attention was drawn to the Issues Paper on the Bangladesh Crop Sector Review issued by the South Asia Agricultural Division on August 7, 1975 which refers in paras. 16-18 (reference attached) to conflicts between the view of agricultural staff and the views adopted by education staff in the appraisal of the Bangladesh Rural Training Project.

3. The issue raised by the Crops Sector Review relates to local conditions regarding supply of skilled manpower and facilities for housing and storage. The Bangladesh Rural Training Project Appraisal Report was reviewed by the appropriate sector department, but the conflicts do not appear to have been raised in that context. This suggests that they may be so specific to the country situation that they would be more likely to come to light, and at an earlier stage, in consultations within the region with program and other project staff. The question is who does, and should, have responsibility for ensuring consistency between Bank projects within each country and at each stage? What additional actions can be suggested to avoid conflicts such as those outlined here? What should have been the responsibility of the country program division?

4. The Crop Sector Review Issues Paper raises also a broader and more fundamental question—namely, the jurisdictional boundaries between education and training financed in Education Projects and project-related training financed in projects of other sectors. It is a question which will inevitably surface in any discussion of issues such as those cited above and one which will become more pressing, particularly as education lending in the Bank focuses more on rural education and training integrated with other development activities and programs in agriculture, population, etc.

5. I would like to suggest that an informal meeting be arranged with a few staff members from each department to discuss the coordination issue as soon as the dust has settled after the annual meeting. If you agree on a meeting, I would suggest Mr. Chittelburgh, the Education Department Training Adviser, to assist in the preparation of a short background note and an agenda for the meeting.

cc: Mr. Ballantine (o/r)
Attachment
institutions credit. Small farmers tend to be omitted from existing institutional credit systems for institutional and social reasons, and must depend on a low cost production package which will be applied through the proposed NRP. Greater efforts must be made to extend NRP Cooperative credit in selected project areas. IDA's proposed Rural Development Project would help consolidate this strategy. In the meantime pressure should be on GOS to improve other credit institutions. The issue is whether this view is acceptable.

Possible Conflicts with the Rural Training Project

16. A conflict relates to the assurance to be sought from GOS that "only qualified and properly trained staff, i.e., not lower than an agricultural diploma holder, would be assigned in the future to extension work". The Training Project essentially caters only for the general extension service. The mission argues that this assurance is impractical; if enforced, it would jeopardize the efforts to staff other agricultural production programs (e.g., by the State Directorates, crop production boards and corporations).

17. A second conflict is that our NRP proposals for renovation of suitably located union seed stores for multiple use (storage, extension sub-centers and field worker accommodation) might be interpreted to prejudice a trial (on loading patterns of field extension) proposed by IDA's Rural Training Project. The mission's view is that the necessity of the trial is questionable; would be extremely difficult to evaluate; and might restrict the scope of NRP extension proposals.

18. These issues highlight a more fundamental problem which the Bank will increasingly have to face - that of the jurisdictional boundaries of projects under Education Divisions and Agricultural Divisions in areas like agricultural extension.

Conflict with Possible Fertilizer Marketing and Distribution Project

19. The issue is whether input storage at thana and union levels should be part of our NRP in selected project areas or part of a national fertilizer distribution and storage project arising from the IDA fertilizer study (para 7). The exclusion of input storage from NRP would substantially reduce its financing requirements. The mission recommends that the fertilizer study include proposed NRP areas for investigation, and that the financing decision of this component await the outcome of this study.

Project Desistance and the Need for Interim Policies and Programs

20. The mission had to initiate dialogue with government on a short-term crop development strategy, in the face of practical realities that significant impact from IDA projects (e.g., Cereals Seed, Rural Training, Rural Development).

1/ Report No. 602a-BD, para 5.03, pg. 15.
2/ Report No. 602a-BD, Appendix 4, para 3.
Crop Insurance Policy

1. I have read Mr. McDonald's draft paper with some considerable interest but regretfully also with a degree of frustration. The interest was generated by the obvious attractions of means whereby small scale producers may be involved in risk aversion and hence enticed into potentially more productive practices. The frustration was derived by my failure to see with any degree of clarity, just how this might be accomplished; but perhaps other readers are less myopic than I.

2. The paper gives a useful, if potted, account of crop/livestock insurance schemes around the world. It concludes that such schemes are generally desirable but beyond two rather specialized case studies examined in the annexes, but from which the conclusions do not appear in the main text, it fails to develop a convincingly quantified cost and benefit scheme for crop insurance. This may well be impossible but I find it hard to become enthusiastic about a proposal, as in Chapter V, for "the encouragement by the World Bank of crop and livestock insurance programs in a select group of rural development projects on a pilot basis". If this means the design and incorporation of such insurance programs, we certainly need to be very selective and, if one were to take account of the eight major constraints listed at the beginning of Chapter IV, one wonders if there are any actual situations in which insurance programs could even tentatively be initiated with reasonable expectation of success.

3. The paper may well provoke pioneer spirits charged with the design of rural development projects to build-in pilot crop or livestock insurance components. But the state of the art is such that I would be very uneasy if more than, say, one crop and one livestock insurance pilot component were to be incorporated in Bank financed rural development projects in the first instance, assuming full Government support for the adventure. In fact, I wonder if a rural development project with its normal organizational complexities would be the best vehicle for such trials? A simple, straightforward production project i.e. with the minimum of trimmings, might be a better bet, in that project management and appropriate monitoring/evaluation personnel would, ceteris paribus, be better able to concentrate on insurance aspects.

4. These observations are made within the general caveat that, in the absence of data, it is not known where crop insurance might be afforded. At the risk of overwide generalization it appears likely that countries most needing insurance would be those in a high risk, and hence high premium, situation. It seems to me that these are the countries which have neither a rural population nor a government with sufficient financial capability to cover insurance costs.

5. On specific points, I found the paragraph numbering confusing; the conventional Bank system makes cross referencing easier. In paragraph 2 of Chapter V, reference to tree crops and food crops with sugarcane and tobacco included in the former category is obviously incorrect. Classification into annual and perennial crops would be more meaningful with a further classification of each into crops for commercialization, such as cotton, tobacco or rubber, and those grown primarily for subsistence.
6. Conclusions drawn at the end of the same paragraph need further documentation or clarification. It is not clear if the particular conclusions drawn from the Mauritius insurance scheme are extended to the general field of food crop insurance and if not, what evidence exists and where to prove that ---- "over a period of years the net cost to government in the form of lost taxes, diminished purchasing power, alternative government support programs for catastrophic losses will prove costlier than at insurance program which meets the needs of small farmers. In food crops the advisable strategy is to provide credit insurance."

DCPickering: hrv

cc: Messrs. Darnell
    Bruce
    McDonald
Crop Insurance Study

This is a very interesting and readable treatment of an important and often neglected subject. Many development projects assume farmers will voluntarily accept new farming practices requiring increased cash inputs with a consequent increase in the range of possible outcomes on both the positive and negative sides. It is understandable that a risk avertor small-farm holder for whom survival rather than profit maximization is the objective may well hesitate to take advantage of credit availability. This may be an important factor in explaining slow project acceptance rates. An insurance scheme guaranteeing the farmer that given the worst seasonal outcome he will still be able to meet at least his increased cash debts seems desirable.

A further study setting out the pros and cons of crop insurance in more detail would be most helpful before the issuance of the document for operational staff mentioned in the cover memorandum. Apart from technical and actuarial considerations it would be useful to see some treatment of the lumpiness of the investment needed i.e., minimum farmer number/crop value required to spread the considerable fixed costs; minimum crop diversity and/or regional diversity required to spread risk for the insuring authority. As stated in the study, many developing countries are in high risk areas and lack the reliable data base required for actuarial considerations. It is difficult to agree with the proposed solution that, "If production records are available for only a couple of years for even a few farms, then this should be used. These farms could serve as a guide for a district, region or even a country." Ch. IV, para. 5. A better course might be for the government to postpone insurance until such time as adequate data are available or to implement the scheme as a social welfare policy instrument on a trial basis fully aware of the cost-burden risk and the possibility of continual need for ad hoc rescheduling of premiums and conditions.
August 19, 1975

Michael Cornea

Articles for the Journal "Sociologia Ruralis"

Following my proposals, as Editor of "Sociologia Ruralis", Dr. Paul Muller, the Managing Editor, informed me in a recent letter of his agreement to publish in "Sociologia Ruralis, Journal of the European Society of Rural Sociology", the following two papers:

a) A Study on Rural Development - conceptual problems, multidisciplinary and integrated approach, sociological aspects of rural development project work.

The study may have up to 18-20 pages with a summary in English, French, German.

b) An article on the specific activities of the Rural Development Division of the Bank, (the new style projects, the concern with social-cultural and behavioral parameters of development projects, the use of sociologists in project preparation, appraisal, supervision etc.).

This article may have up to 5-6 pages.

Would you be interested in writing one of these two articles and/or suggesting senior members of the Department and Division as prospective authors?
Rural Development - Audio Cassettes Technology

I have read five papers on cassette special communication systems written by Royal D. Colle of the Cornell University (1973-75) and I have the following comments:

1. I agree with you and Mr. Furst on the potentiality of this approach. I particularly expect that a field worker supported by volunteers and a cassette system will become a mainstay of expanded extension facilities in developing countries, in which the ratio of government agricultural agents to farm families is about 1 to 8,000.

2. According to these five reports, the merits of the cassette system are:

   (a) It relies on oral techniques, (not on literacy saturation);

   (b) It could be used in conjunction with relatively untrained voluntary workers;

   (c) The cassette recorder is easy to manipulate and inexpensive (2-3 cents per farmer per week for about 25 minute exposure time);

   (d) It can be localized; (for the majority of people, credibility begins at the village boundary);

   (e) It could be used whenever the audience are ready to be exposed to the messages;

   (f) It can pinpoint the target audience according to the selected subjects which are dealt with;

   (g) It has potential for spontaneous group discussion and two-way communication;

   (h) It is not only a system of communication for consumers but a latent training system for field workers; and

   (i) It might be combined with visual materials such as slides, filmstrips, booklets with pictures and a limited number of words.
3. I think that the following points should be examined further particularly for the purpose of clarifying the comparative merits and demerits of the cassette system and AM or FM radio transmission:

(a) These reports do not explain in detail how and by whom the tape contents are produced. Who unites the script? Do they use a studio? Is a special technical staff assigned? Can existing radio facilities be used?

(b) If a country is going to expand the cassette system on a massive scale, how will numbers of copies be produced from mother tapes? How will they be distributed among very remote villages or nomad tribes? How will the tapes be recycled?

(c) The supply of batteries may give some inconvenience to remote villages because the cassette recorders consume more powers than radio sets. The tape threading mechanism is relatively more fragile than electronic portion; this will burden the maintenance systems with more strain.

(d) One of these reports (the second) refers to the failure in the cassette use for the family planning project in Taiwan. I wish I could have more explanations as to why the field workers did not like the cassettes.

cc: Messrs. Ballantine, Hultin, Maas, Furst.

SFUTAGAMI/ag.
TO: Files
FROM: Gilbert Brown, PRD
SUBJECT: The Role of Prices in Food Grain Production

DATE: August 21, 1975

1. On Friday, August 15, Mr. Burki and I discussed this subject with Jack Duloy and Montek Ahluwalia of the DRC, Donald Keesing of the Public Finance Division, and Martin Wolf of the South Asia Department. We discussed the handling of this issue both in the paper being written for Mr. McNamara on food production and as a topic for long-run major research under the External Research Program. The interest of the members of each unit of the Bank differed. For the DRC, the question was whether this was an area in which to launch a very major research activity involving a large number of man-years over a period of several years. Mr. Wolf suggested that the priority aspect of the problem in India was to consider the consequences of (and how to improve or modify) India's present foodgrain procurement system, given the existing structure of production. Mr. Keesing was talking in terms of research on food policies toward consumers, and wanted to see a survey for a large number of countries to find out what kind of foodgrain in pricing policies and subsidies existed. Mr. Burki and myself were oriented both toward getting an input on the significance of pricing into the foodgrain production paper for Mr. McNamara and toward plans for follow-on longer-run research.

2. The outcome of the meeting seemed to be that perhaps Mr. Keesing and myself would initially draft a piece for the October draft of the Foodgrain Paper, outlining the importance of the issue and the questions on which further research is needed. Mr. Duloy and Mr. Ahluwalia expressed their interest in reading such a paper, and Mr. Duloy suggested that DRC might use the CHAC model to run the Mexican data and provide estimates of the impact of price changes upon production, consumption, fiscal policy, savings, etc. for this paper.

3. As for the survey of food subsidy and pricing policies, Mr. Ahluwalia said he had discussed with Mr. Chernick the creation of a questionnaire to be given to the country economists of perhaps two dozen or more countries. The economists would be asked to provide what data they could within several weeks, and to obtain the additional requested data on the next suitable economic or agricultural mission. It was agreed that we would try to draft such a questionnaire.

4. There was also some feeling that detailed country studies might be the most productive research method. Some of these might be done on a short-term basis by one or two people in the next six months. Also, we would search Bank reports and other sources of existing studies and use these both as an input into the Foodgrain Paper and as a basis for designing future research. The DRC will probably be involved in yet more detailed foodgrain studies in Zambia and in Pakistan, in which
large scale models will be used and a primary focus will be on pricing policies. The Zambian case study is apparently under way. The Pakistan study is still being designed. The foodgrain production and supply side would be studied in detail as part of the Indus Basin agricultural study for which the Bank is to be executing agency for the UNDP. The demand side would be studied in detail under an M.I.T. nutrition study program directed by Lance Taylor and sponsored jointly by the M.I.T. Nutrition and Economic Departments. These departments have a grant to study nutrition planning in Pakistan, and as part of this will do a detailed study of food and foodgrain demand.

Several other studies were mentioned that are already under way that also deal at least in part with these topics. The one which may be most similar to the paper for Mr. McNamara is being done at the Stanford University's Food Research Institute by Falcon and Timmer. We have some early draft output of that study dealing with rice and fertilizer prices in Asia in relation to yields, and will contact them about their current progress and output. The Brookings Study on Agricultural Production now under way should also be useful, as may the CHAC model on Mexico.

Mr. Hawkins of the East Asia Dept. will work on the foodgrain paper, and has expressed a strong interest in the importance of the pricing policy problems. Mr. Gene Rees of the Bank's resident staff in Bangkok will shortly be returning to Washington to the East Asia Projects Department, and will also work on this problem.

Mr. Wolf was hesitant to plan for a large formal model study of pricing policy questions in India at this time. Rather he proposed to give top priority to study of foodgrain procurement and pricing problems in the immediate future, while pulling together existing knowledge on the impact of foodgrain prices on other aspects of the Indian economy. He suggested the possibility of having a study carried out by Indian research institutions under contract with the Bank.
OFFICE MEMORANDUM

TO: Mr. Leif E. Christoffersen

FROM: Charles Magnus

DATE: July 31, 1975

SUBJECT: Preliminary Observations on Quarterly Progress Reports

Purpose

To survey a sample of Bank Projects and review the content of their respective Quarterly Progress Reports (QPR) in light of Bank reporting policy and of project objectives defined in the initial appraisal reports.

Study Sample

Rural Development/Agricultural projects implemented during the period FY68-74 were selected. No scientific methodology was used in determining which and how many projects were to be reviewed. Those surveyed included:

- Senegal 254 - Terres Neuve Resettlement;
- Peru 933 - Agricultural Credit;
- Malawi 113 - Lilongwe Development;
- Colombia 739 - Caqueta Land Colonization;
- Sierra Leone 323 - Integrated Agricultural Development; and
- Lesotho 361 - Thaba Basin Rural Development.

Findings

I. Submission of QPR. There is no provision in either the Operational Policy Memorandum, Project Supervision (No. 3.50 dated July 1973) or in the Project Supervision Handbook (PSH) which specifically reads that progress reports must be submitted by Bank borrowers on a quarterly basis. Although Project Supervision does state that project supervision is carried out through the study of periodic reports (para. 5), it also stipulates that the number and timing of project reports to be received from borrowers is the responsibility of the Regional Projects Department (para. 38). The PSH, while inferring that QPR are to be submitted (model requirements and forms for four of the five sample projects provided in Annex B are on a quarterly basis), does not categorically demand them - "However, the staff responsible for any given project should consider whether any different periodicity would be appropriate." (para. 56). Only for Lesotho-361 do the legal documents make specific reference to QPR. (Development Credit Agreement, Sec. 3.15 (c) (iii)). In the sample surveyed, QPR for five of the six projects are submitted on a regular basis.*

* Peru-933, which became operational only last fall (although initially scheduled to take effect 11/10/73), has not submitted any reports to-date; however, Mr. Feverstein, presently in charge of this project, informs me that reminders on QPR have been sent to the Project Manager.
II. QPR Format and Content. Standardization of progress reports is neither established nor encouraged. The PSH states that the system of progress reporting must always be tailor-made in light of the particular characteristics of a given project. (para. 5h) Furthermore, staff responsible for projects in a given sector will work out their own general model of reporting systems. (para. 55) However, basic guidelines on report content are provided. Progress reports should cover:

(a) The various steps from design through contract award to physical construction;

(b) The costs of the project, expenditures made, and disbursements of the proceeds of the Bank loan;

(c) The management and operations of the borrower;

(d) The fulfillment of the borrower's undertakings in the loan document;

(e) The financial situation and prospects of the borrower; and

(f) A summary after the Closing Date of experience with the project, together with a review of the benefits expected from the project. (para. 57).

Points (a) through (e), directed to the physical development of a project, fulfill a monitoring function on a continuous basis. Project benefits, a particular concern of point (f), are emphasized in a Project Completion Report which is submitted as soon as practical after the investment period has ended. The rationale behind this procedure is that many projects do not provide benefits until after the investment stage. Still, the PSH notes that in appropriate cases information about benefits should be included in progress reports. (para 98).

III. Project Objectives. The physical area covered by the projects reviewed ranged from approximately 4000 ha in Senegal to well over 300,000 ha in Colombia. The number of recipients expected to be reached ranged from 550 families in Senegal to 12,000 families in Lesotho. The size of the project loans ranged from US$1.35 million for Senegal to US$8.1 million for Colombia. Despite these variations, the objectives/targets of these individual projects can be classified under two main headings: those involving purely physical results (e.g., $250,000 for a 20-mile access road) and those involving productive income benefits (e.g., raising per capital income from $55 to $80). The following identifies the major goals as set forth in the appraisal reports.
<table>
<thead>
<tr>
<th>Project</th>
<th>Physical</th>
<th>Productive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senegal-254</td>
<td>build 65 roads;</td>
<td>by 1980, increase family incomes by 70% for resettled families and 30% for established families; increase cotton, groundnuts, maize and sorghum production</td>
</tr>
<tr>
<td></td>
<td>build 6 wells;</td>
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<td></td>
<td>clear (by mechanical means) 600 ha;</td>
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</tr>
<tr>
<td></td>
<td>clear (by manual labor) 1500 ha;</td>
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<tr>
<td></td>
<td>build 4 warehouses;</td>
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<tr>
<td></td>
<td>establish 6 villages (50 families each); and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>provide credit</td>
<td></td>
</tr>
<tr>
<td>Malawi-113*</td>
<td>develop land use plans for 163,000 acres;</td>
<td>increase maize, tobacco, and groundnut yields (over 13 year period); increase standard of living</td>
</tr>
<tr>
<td></td>
<td>build 165 miles of crop extraction roads;</td>
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<tr>
<td></td>
<td>establish 125 working boreholes;</td>
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<td></td>
<td>construct and equip 11 markets;</td>
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<td></td>
<td>construct one 8,500 ton crop storage facility; and</td>
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<td></td>
<td>provide $3.6 million credit for farmers</td>
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<tr>
<td>Lesotho-361</td>
<td>provide credit to 12,000 farmers;</td>
<td>improve maize, sorghum, wheat and bean production on 60,000 acres; increase family incomes from $25-28 to $60-75</td>
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<tr>
<td></td>
<td>build 250 miles of roads;</td>
<td></td>
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<tr>
<td></td>
<td>construct 20 multi-purpose dams;</td>
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<tr>
<td></td>
<td>construct 4,000 miles of terracing and waterways;</td>
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<tr>
<td></td>
<td>conduct research and farmers' training</td>
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<tr>
<td>Sierra Leone-323</td>
<td>increase estate palm oil by 510 acres;</td>
<td>increase incomes of 2500 families; increase rice yields</td>
</tr>
<tr>
<td></td>
<td>provide credit for 6000 acres of swamprice, 750 acres of cocoa and 1830</td>
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<tr>
<td></td>
<td>outholders' palm oil;</td>
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<tr>
<td></td>
<td>construct 20 rice mills; and train farmers</td>
<td></td>
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<tr>
<td>Colombia-739</td>
<td>build 380 km of access roads;</td>
<td>by year 4, achieve rice product of 29,000 tons and 28,000 head of hogs; achieve satisfactory incomes</td>
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<tr>
<td></td>
<td>provide credit for 3500 established farmers and 1000 of 2800 new farmers;</td>
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<tr>
<td></td>
<td>obtain land titles for farmers;</td>
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<tr>
<td></td>
<td>build 90 primary schools;</td>
<td></td>
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<td></td>
<td>build 6 health centers;</td>
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<tr>
<td></td>
<td>conduct research</td>
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* Phase 1 (4 years) of a 3 Phase (13 years) Program.
IV. QPR Submitted for Above Projects. Considerable similarities were observed in these reports.

1) For each of these projects, there is a defined report format which remains relatively the same throughout the project's operational life. Subsections on the various components are added, deleted, expanded or de-emphasized, depending upon the phase of project implementation;

2) Although the QPR are specifically designed for each particular project, similar sections are found in all reports. These include: the administration and personnel profile; the transportation and vehicles situation; financial accounts on all aspects of the project; and the numerical status of all physical targets; and

3) Information presented on expenditures and with respect to progress made toward achieving physical targets is detailed and complete, e.g., balances remaining in the various accounts, number of loans issued, number of individuals attending training sessions, descriptions of research and extension activities undertaken.

In essence, the development of institutional components of the respective projects is very clearly documented. Indeed, there is a close monitoring of all physical targets. Yet the QPR provide little insight as to the productive impact of these physical achievements; issues of equity and distribution are not addressed. For example, aggregate figures are provided with reference to number of loan requests received (also approved, disbursed, and recovered), acreage planted, amount of marketed produce, number of field days conducted and bags of fertilizer sold. Not clarified in the QPR are such matters as: (i) loan recipients by size of farm, size of loan; (ii) market sales by number of sellers and size of individual sales; (iii) net benefits accruing, on an individual basis, as a result of credit facilities and improved technological inputs; and (iv) effectiveness of extension services. In none of the reports is data presented reflecting a project's effect on family or per capita incomes. (Even in the case of Malawi-113, for which a field evaluation component has been incorporated in the project, actual findings of various surveys and analyses are not contained in the QPR themselves; the studies undertaken and completed are listed only.)

V. Summary. The projects' aim is two-fold: first, to achieve certain physical targets in a manner prescribed in the appraisal reports; and second, to improve the standard of living of project beneficiaries through improved agricultural production. The first aim is acknowledged as a prelude to the second. The QPR, in their existing format and present applications, reflect the first aim; they are neither designed nor really expected to focus on the second.
OFFICE MEMORANDUM

TO: See distribution below
FROM: G.B. Baldwin, Population and Nutrition Projects Department
SUBJECT: Attached Summary of the Coombs/Ahmed book, Attacking Rural Poverty

DATE: July 29, 1975

TO: See distribution below
FROM: G.B. Baldwin, Population and Nutrition Projects Department
SUBJECT: Attached Summary of the Coombs/Ahmed book, Attacking Rural Poverty

1. The attached summary of this Bank-sponsored book was prepared by Mrs. T.V. Tiglao of this department, primarily to make its contents more accessible to PNPD staff members. The book is primarily concerned with the design of communication activities intended to persuade target groups in rural populations to change their behavior in one or more aspects of life, e.g., agricultural practices, eating habits, sanitary practices, family planning, or personal hygiene.

2. Messrs. Coombs and Ahmed emphasize the dominant role of non-formal education (i.e., teaching and communicating that occur outside the formal education system) in producing behavioral change. The challenge for project designers, whether in the Bank or in our member governments, is to identify specific forms of non-formal education appropriate to specific objectives under the conditions of life in particular countries. The world is full of experience and experiments of non-formal education at work; it is up to us, as project planners, to become more familiar with this way of analyzing behavioral change and to improve project design by making use of such channels of communication whenever we and our borrowers can see ways of doing so. The Coombs/Ahmed perspective also opens up almost endless possibilities for research to try to sort out which kinds of non-formal education seem most effective for particular purposes.

Distribution:

All PNPD staff
Mr. Ballantine, Education Proj.
Mr. Hultin, Education Proj.
Mr. Chittleburgh, Education Proj.
Mr. Simmons, Dev't. Economics.

Gen:PNP
GBBaldwin: sr
Attacking Rural Poverty by Coombs and Ahmed

Non Formal Education--Its Relevance to Family Planning and Nutrition

1. Introduction

Attacking Rural Poverty, a study initiated by the World Bank and conducted by the International Council for Educational Development (ICED), examines the experiences of a diversified sample of non-formal education programs aimed at increasing the productivity of farmers, artisans, craftsmen and small entrepreneurs. It aims to provide fresh insights and guidance to practitioners who are engaged in breaking the cycle of rural poverty and who are interested to find out how education can help.

It is hypothesized that rural development is the dynamic resultant of many interacting forces of which education is one. The educational needs for rural development are grouped under four headings: (i) general basic education; (ii) family improvement education; (iii) community improvement education; and, (iv) occupational education.

The study centers on occupational education. Some twenty-five selected cases of non-formal education programs scattered throughout the developing world were reviewed. It identified three target groups for occupational education--persons directly engaged in agriculture, persons engaged in off-farm commercial activities, and general service personnel--and their types of learning needs (see Annex 1). Rural areas generally have poor educational resources to meet these diverse needs considering the disparity in the allocation of educational resources in favor of the urban areas; the sparse educational resources in the rural areas do not reach the population that needs it most--the out-of-school youths and the economically deprived.

The underlying concept is that rural development should not be viewed simply as increased agricultural production and economic growth; it is a gradual unfolding process that helps poor people discover their

1/ Non-formal education--any organized, systematic, educational activity carried outside the framework of the formal system to provide selected types of learning to particular subgroups in the population.
Formal education--highly institutionalized, chronologically graded and hierarchically structured educational system.
Informal education--unorganized, unsystematic lifelong process by which every person acquires and accumulates knowledge, skills, attitudes, insights from daily experience and exposure to environment.
potentials and develop confidence in themselves. Education fuels this unfolding process and, in the rural areas, non-formal education can play a big role. Education is seen as a life-long process acquired through formal, non-formal and informal education, each reinforcing and supplementing each other.

2. Four Approaches to Non-Formal Education in Rural Areas

The study categorized four approaches to non-formal education: (i) the extension approach; (ii) the training approach; (iii) the cooperative self-help approach; and, (iv) the integrated development approach.

2.1 The extension program approach - Its primary objective is to persuade and help farmers increase production by adopting improved technical practices. Secondarily, it seeks to improve rural family life. Target groups include farmers and their wives and children. The emphasis of the message is on production technologies coming from experts of the higher echelon and relayed to extension agents in the form of recommended practices. The method used is the adoption process--(a) creating awareness; (b) provoking interest; (c) information and demonstration; (d) trial and adoption. Examples are those of the Office of Rural Development (ORD) in the Republic of Korea and the Societe d'aide technique et de cooperation in Senegal (SATEC).

2.2 The training program approach - This uses institutionalized and systematic programs (theory and practice) for the training of extension workers and selected farmers and aims at basic mastery of certain skills and related knowledge that can serve farmers for an extended period of time with a variety of conditions.

Different models of agricultural training programs were studied and include: (a) the short term residential training type (Farmer's Training Center in Kenya); (b) the longer term farmer training of "leader" farmers who could provide "multiplier" effect; (c) training of "trainors" of field workers to spread quickly the benefits of research findings such as the Rice Production Training Program in the Philippines; (d) mobile training to bring training to the farmers (Columbia); (e) developing technical skills for non-farm adolescents and young adults such as the Mobile Trade Training Schools in Thailand, the Nigeria Vocational Improvement Centers and Senegals Rural Artisan training program; and, (f) training program for managers and employees of small-scale industries in India.
2.3 The self-help approach to rural development - The extension and training approaches are based on the implicit assumption that rural development could be initiated only by outside intervention and by the introduction—even the imposition—of modern production technologies. On the other hand, the self-help approach is based on faith in people and their ability to "raise themselves by their bootstraps". While acknowledging the importance of modern expertise and external assistance, such help should be in response to expressed local needs—as part of an enabling process, rather than a one-way intervention from the top. Examples are India's Community Development Program, Senegal's Animation Rurale, the Philippine Rural Reconstruction Movement, Tanzania's Cooperative Education System, Bangladesh's Comilla Project and Columbia's Accion Popular. While these programs vary in specific objectives, structures, methods and content, they share a common denominator—that rural development is a function of the transformation of the attitudes and behavior of rural people themselves. For this to happen, the rural people must have a larger voice in diagnosing their own needs, in making decisions that affect their lives and in managing their own destinies.

2.4 The integrated approach - The premise here is that a combination of factors (right education, access to physical inputs, markets, attractive prices, public works), properly deployed and coordinated, is essential to get agriculture moving. Six agricultural integrated projects were reviewed ranging from the Gezira scheme in Sudan with narrow economic objectives to those with more comprehensive package approaches such as the Intensive Agriculture District Program in India, the Chitalo Agricultural Development Unit in Ethiopia, the Program on Agricultural Credit and Cooperation in Afghanistan and the Pueblo Project in Mexico, to ambitious development effort such as the Land Development Program in Malawi. Different educational approaches were used—high ratio of extension workers to farmers, use of "leader" farmers, extensive use of innovative educational media, use of conventional methods, etc. All, however, were faced with the problem of the ever widening gap between the rich and the poor.
3. Critical Issues in Non-Formal Education and their Relevance to Family Planning and Nutrition Education

Non-formal education programs as a component of any program need to be viewed in a broad perspective as: (i) part of an overall knowledge generation and delivery system; and (ii) part of a wider community development system involving a number of essential non-education elements. Family planning and nutrition education cannot be viewed in isolation; it should permeate the various components of family planning and nutrition programs, as well as be an integral part of all educational activities—formal, nonformal and informal—of related community development efforts—health, agriculture, welfare, labor, education, etc. It is important to identify these various linkages and to establish horizontal as well as vertical coordination.

Non-formal education with its different approaches have been extensively used in health/family planning/nutrition programs for the training of para-medical and para-professional personnel such as auxiliary nurses, health inspectors, indigenous midwives, village workers, volunteers, community leaders, etc., and in-service training and refresher courses of both professional and para-professional personnel. Non-formal education offers great potential but many have failed because of: (i) the inhibiting effects of traditionalism and uniformity; (ii) failure to investigate sufficiently the training needs and circumstances of the trainees and their work environment; and, (iii) lack of follow-up support for trainees. As a result of this 'blind approach', the content is not well tailored to fit the needs of the trainees, or the quality of instruction is poor, or the technical training is not supplemented by effective management training, or it is not supported by other essential support services.

The following have been identified as some of the critical issues in non-formal education and which have implications for family planning/nutrition education:

3.1 Quality of content - Careful diagnosis need to be made of the knowledge needs of the learners. Learners here can be categorized into different subgroups or targets. It is important to know the roles of the different target groups in the program; the various knowledge and skills they need, to perform these roles; the present knowledge and skills they already have; their perceptions and attitudes towards the new innovations; and the knowledge and skills they need to acquire. After such an assessment of learning needs, the knowledge and practices to be taught can be determined; these should be not only technically sound but also physically and economically feasible, and socially and politically acceptable.
A continuing series of learning experiences, accompanied by other essential support services has been found to be more effective than a 'single-shot' affair. Constant feedback from the learners is essential as a basis for modifying educational programs and for formulating follow-up of training programs. After exposure to the field, learners would be in a better position to identify some of the missing content of the educational programs and to suggest possible content for the successive refresher courses. This calls for a close dialogue between the "trainors" and the learners so that the educational content becomes dynamic; this is in contrast to the traditional "swivel chair", "father knows best" method of determining content.

3.2 Quality of instructional methods, media and material - This is another critical issue. This study found that the extension and training approaches have tended to cling to the traditional authoritarian "you listen to me" stance, whereas the cooperative self-help approach gave more emphasis to self-analysis, self-help and self-determination.

There need not be any dichotomy here. The cooperative self-help approach can be used in extension and training activities as long as family planning and nutrition workers believe that learners have enough intelligence and capabilities to analyze and solve their problems and are treated as partners in the process. Instructional methods should be an unfolding rather than a telling process. The classroom one-way lecture type of instruction has to give way to other innovative methods--group discussions and presentations, simulation exercises, games, problem-solving, field trips and field projects, demonstrations, etc.

The closer training is given to the point of actual employment the better patronized and more effective it is likely to be. Itinerant trainers or mobile training teams have proved effective. When "trainors" go to the rural areas, they become learners themselves and are better able to adopt training content to local situations.

Lack of training aids for self-instruction, the dominance of hardware over software, and the tendency to cling to traditional and costly instructional methods have narrowed the reach of non-formal education programs. However, there are innumerable opportunities to strengthen non-formal education through ingenious combination of low-cost educational technologies through more creativity and imagination of the user.
It would be useful to start off by making an inventory of the educational technologies already being used and others that are available. These low-cost educational technologies could be fully harnessed in new ways and put to work more effectively. Various indigenous media (folk media) and channels of communication (market places, village councils, games, fiestas, religious centers, barber shops, beauty parlors, etc.) should be explored and used to best advantage.

The multi-media approach has been found to be successful in reaching, motivating and instructing large numbers of people to take specific kinds of constructive actions. It is better to have a coordinated, intensive attack on one target at a time in accordance with a set timetable. The use of multi-media approach to support a plan of action and to reinforce face-to-face communication is even more effective.

The radio discussion group and low cost games (modification of Monopoly) have been effective in helping illiterate peasants to grasp complex ideas. Commercial distributors and satisfied acceptors of innovations could have "multiplier effects" if properly mobilized. The 'each one teach one' approach could be used to best advantage in the villages.

There is no one single best method. Each country must work out a method suited to its needs and circumstances. The ingenious use of effective low-cost technologies that already exist rather than introducing sophisticated new media that are beyond the grasp of poor countries, should be the cardinal emphasis.

3.3 The problem of cost, resources and evaluation - One of the major potential advantages of non-formal education is that it generally has low capital cost; it can mobilize resources and support, in a great many forms, from a variety of sources; it can borrow unutilized facilities. The cost can be very modest although some that copied formal education methodologies and used modern educational technologies cost ridiculously high. Can developing countries muster enough resources to support non-formal education programs? The answer is yes, provided there is a national will and favorable political climate that would unleash and redeploy financial, human and physical resources.
External assistance has played a major role in the capital and initial development cost of many non-formal education programs. This is true with training and IEC programs in family planning. While such assistance has stimulated interest, it has also created some problems; e.g., fragmentation of educational efforts because of special agency interests, "pilot projects" beyond replication and "overbuilding syndrome". These problems could be minimized with more local initiative and self-determination.

One difficulty in non-formal education is the problem of determining the real economic cost since there are many "hidden costs" such as volunteer help, free radio time, borrowed facilities, etc. One has also to take cognizance of many indirect and non-economic benefits which may be more important than direct economic benefits. The central issue is not costs as such but the relation of costs to results. The question is, are cost-effectiveness and cost-benefits analyses feasible and appropriate in evaluating non-formal education programs?

The answer is yes, but this requires seeing it broadly in its socio-economic context and keeping a close eye on the relationships between its resource costs and the results it appears to be producing, both immediate and long term, both economic and non-economic. It should be remembered that it is difficult to isolate the benefits attributable to education from those of other components.

### Planning, Organization, Management and Staffing

Planning of non-formal education demands extensive preparation to gain an understanding of the local people and conditions for which it is planned. It should begin by diagnosing the features of the area and the characteristics and needs of the population to be served, identification of specific learning objectives, available resources, national policies and priorities, constraints, etc.

The key question is what conditions favor good planning and what conditions militate against it?

The study showed that good planning is most likely to be done where planners are:

a. broad visioned and appreciate the merits of an integrated approach;

b. not inhibited from looking beyond the specialized jurisdiction of their agency;
c. free from heavy pressure to get a project quickly into action;

d. allowed to pay attention to long range as well as short range implications; and,

e. able to arouse a strong spirit of cooperation and mutual understanding and interest among the staff and leaders of various related agencies.

Bureaucracy, rigidity, and sometimes civil service systems have been found to be constraints to good planning.

Programs should be creatively designed to fit each situation. There should be an end to transplanting pre-conceived educational models which usually are not congruent with the needs and circumstances of the area.

Organization of non-formal education is diverse; some have hierarchical structures with many levels; some have high degree of autonomy; some are tightly managed integrated development schemes. There is no one best organizational pattern. The test that can be applied in assessing organizational features are:

- Does it facilitate effective planning and evaluation?

- Does it contribute, in the program's implementation to flexibility and adaptability to changing situations?

- Is it compatible with the needs of the population?

- Does it facilitate recruitment, retention and effective utilization of staff?

- Does it encourage coordination?

Staffing the effectiveness of the education program hinges on the ability to recruit, retain and utilize efficiently the staffs required. The possibility of harnessing the services of local volunteers and other personnel living in the rural areas is a special advantage that nonformal education can exploit.

One problem that has been faced is the recruitment of able people to serve as counterparts to experts in projects with external assistance. One important reason is the short guaranteed life-expectancy of the project; able civil servants with secure posts would not take such an inordinate career risk.
Another reason is that projects are viewed as relatively less important than others. Another is that experts come from differing cultures and often offer conflicting views or impose their own country's styles and forms on the host country. International agencies need to be sensitive to these problems.

4. Conclusions

Three basic conclusions recur throughout the study:

4.1 The need for greater integration - linking related elements together so that their collective impact and accomplishments will be greater than if they acted separately, as opposed to fragmentation.

4.2 The need for greater decentralization - national programs must be translated into more detailed operational plans appropriate for each local area. This requires redeployment of educational talents in the field.

4.3 The need for greater equity - most programs disproportionately benefit those who are already better off and seriously neglect the most disadvantaged. This is true both in family planning and nutrition services. Outreach efforts need to be mounted to reach those who need the services most.

5. Promising Areas for External Assistance - The following are important opportunities for external assistance:

5.1 Help in improving the techniques and the supply of personnel for planning the training, and information, education and communication programs for family planning and nutrition.

5.2 Short-term professional assistance to countries in diagnosing and sizing up their training and educational needs with a view to formulating fresh approaches to training and IEC programs.

5.3 Creating and/or strengthening various facilities that can reinforce the training and IEC programs—common service facilities for staff development, research generating good program materials, centralized production centers, and the like.

5.4 Assistance to evaluate present training and IEC systems with specific help to strengthen the system at critical points.
5.5 Assistance in the management of the training and TEC systems.

5.6 Help in strengthening educational technologies and training methods--designing more efficient and effective ways to use educational technologies including provision of special equipment and supplies and production capacity needed to support these technologies.

July 28, 1975
TVTiglao: sr
### Illustrative Rural Occupational Groups and their Learning Needs

<table>
<thead>
<tr>
<th>Groups</th>
<th>Types of Learning Needs (at varying levels of sophistication and specialization)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Persons directly engaged in agriculture</td>
<td>Farm planning and management; rational decision making; record keeping; cost and revenue computations; use of credit</td>
</tr>
<tr>
<td>1. Commercial farmers</td>
<td>Application of new inputs, varieties, improved farm practices *</td>
</tr>
<tr>
<td>2. Small subsistence and semi-subsistence farm families</td>
<td>Storage, processing, food preservation*</td>
</tr>
<tr>
<td>3. Landless farm workers</td>
<td>Supplementary skills for farm maintenance and improvement, and sideline jobs for extra income</td>
</tr>
<tr>
<td></td>
<td>Knowledge of government services, policies, programs, targets</td>
</tr>
<tr>
<td></td>
<td>Knowledge and skills for family improvement (e.g., health, nutrition, home economics, child care, family planning)*</td>
</tr>
<tr>
<td></td>
<td>Civic skills (e.g., knowledge of how cooperatives, local government, national government function)</td>
</tr>
</tbody>
</table>

Persons engaged in off-farm commercial activities

<table>
<thead>
<tr>
<th>Groups</th>
<th>Types of Learning Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Retailers and wholesalers of farm supplies and equipment, consumer goods and other items</td>
<td>New and improved technical skills applicable to particular goods and services</td>
</tr>
<tr>
<td>2. Suppliers of repair and maintenance services</td>
<td>Quality control</td>
</tr>
<tr>
<td>3. Processors, stores and shippers of agricultural commodities</td>
<td>Technical knowledge of goods handled sufficient to advise customers on their use, maintenance, etc.</td>
</tr>
<tr>
<td>4. Suppliers of banking and credit services</td>
<td>Management skills (business planning; record keeping and cost accounting; procurement and inventory control; market analysis and sales methods; customer and employee relations; knowledge of government services, regulations, taxes; use of credit)</td>
</tr>
<tr>
<td>5. Construction and other artisans</td>
<td></td>
</tr>
<tr>
<td>6. Suppliers of general transport services</td>
<td></td>
</tr>
<tr>
<td>7. Small manufacturers</td>
<td></td>
</tr>
</tbody>
</table>

* Relevant to population and nutrition and which should be basic learning needs for all occupational groups.
<table>
<thead>
<tr>
<th>Groups</th>
<th>Types of Learning Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. General services personnel: rural administrators, planners, technical experts</td>
<td>- General skills for administration, planning, implementation, information flows, promotional activities</td>
</tr>
<tr>
<td>1. General public administrators, broad-gauged analysis and planners at sub-national levels</td>
<td>- Technical and management skills applying to particular specialities</td>
</tr>
<tr>
<td>2. Managers, planners, technicians, and trainers for specific public services (e.g., agriculture, transport, irrigation, health, small industry, education, family services, local government, etc.)</td>
<td>- Leadership skills for generating community enthusiasm and collective action, staff team work and support from higher echelons</td>
</tr>
<tr>
<td>3. Managers of cooperatives and other farmer associations</td>
<td></td>
</tr>
<tr>
<td>4. Managers and other personnel of credit services</td>
<td></td>
</tr>
</tbody>
</table>
July 23, 1975

Mr. Bepin Behari
609 Laxmibai Nagar
New Delhi-110023
India

Dear Mr. Behari:

We have received your letter of June 15, as well as the copy of a preliminary draft of your forthcoming book. As a consultant to Mr. Weiss in the area of rural industrialization, I have read the draft carefully and apologize for not having responded earlier.

The cause for the delay was a positive one, however, in that I found your book to be one of the most perceptive and constructive works written on the rural industrialization process and have sought to share your work with, and elicit comments from other Bank officials. Copies of sections of the paper are presently in the hands of five people here and I am waiting for their respective responses.

In the meantime, I will share with you my comments as I discussed them with Mr. Weiss. My personal view is that change, particularly within a rural context, is - given a fixed socio-economic structure - a participatory and educational process. You are one of the few people (unfortunately) writing in this area who recognizes the importance - in fact, the necessity - of local people participating in the design of their own programs and being responsible for ultimate decision-making, in general. As you point out, a rise in rural incomes is not enough to trigger a self-generating growth in rural areas. There must be a "rural awakening" (your words), a realization by rural people that they themselves are capable of effecting the type of change important in their own environment. It is the experience, the education, the awareness they gain by participating in the process (e.g. the establishment of rural industries) that gives them the self-confidence to continue in other endeavours.

Just as important as the growth in the local income and human resource base is, as you point out, the development of a stronger technological base, an increase in local absorptive capacity. The need to avoid excessive technological sophistication and to build upon already existing skills and technologies is clear. More importantly, I agree that technological choice must reflect the needs of the community and
that, for example, product design must match local demand. At the same time, dependency upon urban or international sources - of technology and markets - must be broken.

If these views are to become more widely accepted, proof is required that rural industrialization based upon these concepts and upon the values, needs, and decisions of those directly affected can and does work given the elimination of certain constraints. But what are the constraints: political? economic? social? technological? cultural? psychological? You aroused my interest with the suggestion of vertical integration of small producers in the sugar industry and cooperatives as an organizational form to carry this out. I wish you had developed this train of thought further as you just touch upon the types of structural change which I believe is critical to bring about any meaningful development in rural regions. Probably the most useful information at this time and within this context would be descriptions of the experiences of local rural groups in India which have organized successfully for productive purposes and have dealt with all the problems of technological choice and adaptation, product design, market identification, management skills, etc. in establishing local industries.

We would appreciate it if you would let us know if there have been any such experiences and if information about them is available. On our part, I will pass on any comments I may receive from those Bank members who are presently reading your book.

Looking forward to further contact and cooperation,

Sincerely yours,

Douglas Hellinger
Consultant
Office of Science & Technology
1. Attached is a report analyzing the rural development achievements of the Fiscal Year just ending (FY75).

2. This report was based primarily on the examination of the seventy agriculture and rural development appraisal reports which were submitted to the Board during the year. Where necessary, additional information was obtained from project personnel and from the Project Information Brief system.

3. We have now received PIBs from the Regional Projects Departments. There was a delay in submission of PIBs because of the end-of-fiscal year workload and difficulties in obtaining country specific information on the target group, which required extra work from the country economists. We hope to proceed with the analysis of FY76 and FY77 as soon as possible. We do note that there are still large gaps in information on these future projects, but we expect better data as the regional divisions progress with project preparations.

TJDavis/pr

Att.

cc: Messrs. Baum/Yudelman/Darnell/van der Tak/Brice/Donaldson/Veraart/Leiserson
Regional Projects Directors
Regional Assistant Directors for Agriculture and Rural Development
Senior Economists
Mr. Creyke, RME
Mr. Wyss, RM/MA
TO: Mr. Leif E. Christoffersen
FROM: Ted J. Davis
SUBJECT: Monitoring Unit Analysis of Agriculture and Rural Development Lending in FY75

DATE: July 21, 1975

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Mr. Wyss, RNWA
Introduction

The Monitoring Unit in the Agriculture and Rural Development Department of CPS has been given the responsibility for analysis of the Bank Group lending program to determine the extent to which Bank projects reach the Bank's quantitative and qualitative targets for rural development. The Monitoring Unit uses a system of Project Briefs recently launched in the Bank. These produce information on the content of agriculture and rural development projects at an early stage in the preparation. The Monitoring Unit has been requested by Bank's management to report quarterly on the content of the Project Briefs and information is now being compiled on FY76 and 77. The results of these projections are now being analyzed.

As a precursor, the Monitoring Unit has undertaken an analysis of all Bank agriculture and rural development projects approved by the Board in FY75. This report summarizes the main points arising from the analysis. It should be noted that the report is based on appraisal reports for projects approved in FY75. The findings are presented in Tables 1-5 for each Bank region as well as for the Bank as a whole.

Bank operations in agriculture and rural development

In FY75 the World Bank approved 70 credits and loans for agriculture and rural development totalling an amount of US$1,857.5 million (see Table 1). This was a 37% increase in the number of projects and a 95% increase in the amount of lending over FY74. The share of agriculture and rural development in the total Bank Group lending increased from last year's 22.2% to 31.5% this year.

Area development and irrigation projects were the two most common types accounting for about 51% of the total sector lending. (See Table 5). The trend toward an increased share of area development and a decrease in livestock development projects is continuing in FY75. Livestock projects account for only 9% of the total lending this year compared to 17% in FY74, while area development has increased from 14% to 33% over the same time.
Project Components

The 70 Bank projects in agriculture and rural development in FY75 correspond to a total project cost of about US$4.2 billion. Thus the Bank financed on average 44% of total project costs. Of these about $2.3 billion is invested directly in agriculture (farm credits, land development, extension services, etc.) (See Table 2). Of this amount, US$735 million was for irrigation schemes - the single largest cost component in the projects. The total investment for administration and institutional support in all projects was US$380 million or 9% of the total cost. Contingencies accounted for about $1.2 billion or 28% of the total cost. The total investment for "nonagriculture" components in the project was US$367 million or 9% of the total cost. Of this, roads accounted for US$155 million (4%); water supply for US$55 million (1%) and social infrastructure (health and education) together for US$100 million (1%). The structure of the projects suggests that single sector agricultural production strongly dominates and that "new" sectors in integrated rural projects are still limited in scope.

Rural Development

The Rural Development Policy Paper has established the definition of a "Rural Development Project" as a project where at least 50% of the project benefits are expected to accrue directly to the "rural target population." This target group is now defined as those families whose income is below absolute minimum needs or with incomes below 1/3 of the average per capita total personal income. Most appraisal reports do not discuss the distribution of project benefits to various socio-economic groups in sufficient detail to allow a reliable analysis of the extent to which projects are rural development projects or not. Therefore, the Monitoring Unit had to exercise varying degrees of judgment in classifying projects into different categories. This analysis shows that 38 projects can probably be classified as rural development projects with a lending amount of US$980 million or 53% of the total lending. (See Table 3). Of these projects, 11 can be classified as "multi-sector" projects; that is, they have more than 25% of the project in other sectors than agriculture.

Production

The agriculture and rural development projects in FY75 are in most cases oriented towards production of food crops. Food crop production is dominating in all regions over non-food production, including
livestock. (See Table 1). The expected value of the food crop production in all projects is about US$1 billion which is about 55% of the total production value in the projects. If livestock, fisheries and dairies are included, the food production accounts for nearly 80% of the total value of the expected production in the projects. The projects are expected to have an annual incremental food crop production at full development of 7 million metric tons. It should, however, be noted that the time required for full development and full production in the Bank projects is often 10 years or more.

Incremental food crop production in the Bank projects is taking place mainly in the Middle East and South Asian countries. EMENA and South Asia regions together account for more than 65% (EMENA 35.4%; South Asia 28.1%) of the total incremental food crop production at full development, although the Bank lending for the two regions in FY75 is about 43% of the total lending for the sector. The average Bank project in South Asia and EMENA regions has an expected food crop production of 180,000 metric tons, whereas the average Bank project in Africa has only 27,000 metric tons. (See Table 3).

It can also be seen that compared with other projects, rural development projects place a greater emphasis on food crop production. Rural development projects account for 64.3% of the total volume of food crop production in Bank projects, but their share of the total project cost is about 52%. (See Table 3).

**Economic Rate of Return**

As many as 37 projects, 53% of the projects, have an expected rate of return of over 20%. Only one project in FY75 among agriculture and rural development projects has an expected economic rate of return lower than 10%. It can be noted that projects classified as rural development projects, do not have a lower economic rate of return than other agriculture projects. Rural development projects account for 54% of all projects and account for 52% of projects with a high rate of return (over 20%). (See Tables 1 and 4).

**Project Beneficiaries**

Most appraisal reports have estimates on how many direct beneficiaries the project is expected to have. These figures must, however, be taken with caution given the highly difficult task to project them. According to appraisal reports, about 2.7 million farm families are ex-
pected to benefit directly from increased farm incomes (for further information see Table 1). Of the total of 2.7 million farm families benefiting from the Bank financed agriculture and rural development projects, about 43% are found in the South Asia region. These 2.7 million benefiting families corresponds to some 16 million individuals which represent about 1% of the present total rural population in LDCs (estimated at about 1.5 billion people, excluding Peoples Republic of China).

Given the total project cost for agriculture and rural development projects in FY75 and the total number of expected direct beneficiaries, the average project investment per beneficiary (family) is about $1,600. The average investments varies substantially between regions and for example in South Asia, the investment per family is about $700. (See Table 1).

Beneficiaries in the Target Group

The appraisal reports do not give sufficient information on which to base an accurate analysis of how many of the beneficiaries belong to the "rural target population". However, on the basis of a subjective interpolation, some 2.3 million families, or over 80% of the total farm families benefiting from the FY75 agriculture and rural development projects are likely to fall within the "target group". It is expected that the information on distribution of benefits and on the number of beneficiaries in different socio-economic groups will improve in light of Bank's new policy paper on Rural Development.

"Direct benefits" in an agriculture or rural development project are defined as increases in farm incomes. Besides direct benefits, many Bank projects may have substantial indirect benefits such as increased employment for non-farm families, improved water supply, health care, education, etc. Only few appraisal reports attempt to estimate the indirect beneficiaries and benefits in the projects. In the reports where estimates have been made, the total number of indirect beneficiaries is about 420,000 families (see Table 1).

The data on employment generation are generally too meager to justify aggregation and the appraisal reports often show no distinction between the actual number of full-time or part-time jobs expected to be created. However, from what is available in the appraisal reports, it seems that the FY75 agriculture and rural development projects financed by the Bank Group will create about 150,000 new full-time jobs and generate at least 50 million man-days of additional work opportunities (these
figures do not include employment required during the construction period. This is an important contribution toward the mitigation of rural unemployment and underemployment. However, in light of the fact that about 30-40% of the rural population are landless, it seems desirable that the employment impact of agriculture and rural development projects should be given a greater attention in the future project design.

Social Infrastructure

Water supply is the most common non-agriculture investment and some kind of improved water supply can be found in 19 of 70 agriculture and rural development projects approved in FY75. Although the total investment in water supply is fairly small, there are estimates that over 700,000 families will benefit from improved water in the projects.

Education and health care have been included in a few projects in FY75. Of the 70 projects, 17 have some components for education and/or health with an average social investment per project of US$2.0 million. There are over 1 million families that are expected to benefit from improved health and the projects provide education for about 218,000 children. The number of beneficiaries in health may be substantially more than shown in appraisal reports as a result of indirect improvement from increased water supply, improved nutrition, improved incomes, etc.

In general, the reports are often weak in describing the impact of project, expected to have in other terms than economic changes. An objective of the introduced monitoring system is, in the long run, to give more emphasis on the impact of Bank projects on the socio-economic situation of the population and changes in social indicators such as nutritional status, health standards, employment levels, etc.

Conclusions

It appears that the World Bank is well under way toward fulfilling its quantitative targets for rural development for the period FY75-79. The number of rural poor expected to benefit directly from the projects is close to the rate of 100 million over five years as projected in the Rural Development Policy Paper. The expected annual incremental income among direct beneficiaries is well above the 5% target in the Rural Development Policy Paper. The increase in Bank operations
measured in lending volume is impressive with almost a double lending this year compared to last year, in turn, a record year for agriculture and rural development. The number of projects which can probably be classified as rural development are well in line with the targets set by the Bank and the increase in lending for such projects is more than 100%.

There are some important substantive and procedural matters requiring further consideration. First, it is very hard to evaluate the distribution of the benefits within the project area - how much will accrue to the relatively better off and how much actually accrues to the rural poor. Second, in order to live up to the Bank objectives, there may be a strong tendency to overestimate the impact that projects will have on the population and especially the poor. In this regard, appraisal reports should be more precise as to estimates of the project's expected impact on the target group. Finally, the role of the landless is a substantive matter requiring further serious attention, albeit one of the most difficult groups to deal with.

In general though, we think it fair to say that there is now a clear understanding of Bank objectives in the Agriculture and Rural Development Sector. The major focus now is one of implementation, feedback and evaluation.
### Summary Table

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Projects</th>
<th>% of total</th>
<th>Total project cost (US$ Mil.)</th>
<th>% of total</th>
<th>Total Bank lending (US$ Mil.)</th>
<th>% of total</th>
<th>Incremental Output:</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Asia</td>
<td>9</td>
<td>13</td>
<td>346.5</td>
<td>8</td>
<td>12h.1</td>
<td>7</td>
<td>Food Crops, Volume</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(*1000 tons)</td>
</tr>
<tr>
<td>W. Africa</td>
<td>20</td>
<td>32</td>
<td>596.9</td>
<td>13</td>
<td>320.4</td>
<td>17</td>
<td>460.8</td>
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<tr>
<td>L.A.C.</td>
<td>10</td>
<td>14</td>
<td>1,014</td>
<td>25</td>
<td>422.0</td>
<td>23</td>
<td>940.4</td>
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<tr>
<td>E. Asia/ Pac.</td>
<td>6</td>
<td>11</td>
<td>502.8</td>
<td>12</td>
<td>193.0</td>
<td>10</td>
<td>807.6</td>
</tr>
<tr>
<td>S. Asia</td>
<td>11</td>
<td>11</td>
<td>806.3</td>
<td>13</td>
<td>400.1</td>
<td>10</td>
<td>1,961.5</td>
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<tr>
<td>EMENA</td>
<td>14</td>
<td>20</td>
<td>919.7</td>
<td>22</td>
<td>393.7</td>
<td>22</td>
<td>2,475.3</td>
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<tr>
<td>TOTAL</td>
<td>70</td>
<td>100</td>
<td>4,218.6</td>
<td>100</td>
<td>1,857.5</td>
<td>100</td>
<td>6,981.6</td>
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</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Beneficiaries (families):</th>
<th>% of total</th>
<th>Project Benefits:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total direct beneficiaries</td>
<td>197,500</td>
<td>Employment creation of new jobs</td>
</tr>
<tr>
<td></td>
<td>% of total</td>
<td>7</td>
<td>6,100</td>
</tr>
<tr>
<td></td>
<td>Total indirect beneficiaries</td>
<td>50,000</td>
<td>Employment (part-time jobs)</td>
</tr>
<tr>
<td></td>
<td>% of total</td>
<td>8</td>
<td>78,500</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Area</th>
<th>Social benefits (No. of ben. families)</th>
<th>% of total</th>
<th>Economic Rate of Return - No. of Projects</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Water</td>
<td>211,000</td>
<td>lower than 10%</td>
</tr>
<tr>
<td></td>
<td>Health care</td>
<td>221,000</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Education (individuals)</td>
<td>35,000</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Other (com. centers, etc.)</td>
<td>3,000</td>
<td>0</td>
</tr>
</tbody>
</table>

1/ Information lacking in appraisal reports for a substantial number of projects.

* No data available in the appraisal reports.
<table>
<thead>
<tr>
<th>Project Components</th>
<th>E. Africa % of Total</th>
<th>W. Africa % of Total</th>
<th>LAC % of Total</th>
<th>E. Asia &amp; Pacific % of Total</th>
<th>S. Asia % of Total</th>
<th>EMENA % of Total</th>
<th>Total % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration/Institutional Support</td>
<td>49.3 14</td>
<td>129.5 22</td>
<td>48.7 5</td>
<td>71.3 14</td>
<td>31.8 4</td>
<td>51.4 6</td>
<td>382.0 9</td>
</tr>
<tr>
<td>Agriculture and Other Direct Production</td>
<td>161.4 47</td>
<td>244 41</td>
<td>531.1 49</td>
<td>206.5 41</td>
<td>528.4 66</td>
<td>629.2 68</td>
<td>2,282.5 54</td>
</tr>
<tr>
<td>1. Extension Service/Training</td>
<td>11.1 43.2</td>
<td>40.3 22</td>
<td>49.1 67.5</td>
<td>23.0 41</td>
<td>13.5 4</td>
<td>64.6 6</td>
<td>207.4 5</td>
</tr>
<tr>
<td>2. Credit</td>
<td>9.1 12.3</td>
<td>-</td>
<td>83.1 -</td>
<td>4.1 -</td>
<td>81.0 -</td>
<td>64.6 6</td>
<td>173.2 4</td>
</tr>
<tr>
<td>3. Physical Input</td>
<td>0.5 55.3</td>
<td>-</td>
<td>85.8 18.3</td>
<td>29.5 5</td>
<td>81.0 -</td>
<td>64.6 6</td>
<td>270.5 6</td>
</tr>
<tr>
<td>4. Irrigation</td>
<td>34.9 5.5</td>
<td>-</td>
<td>194.2 90.1</td>
<td>297.5 113.2</td>
<td>113.2 4</td>
<td>735.4 17</td>
<td>370.8 9</td>
</tr>
<tr>
<td>5. Land Development</td>
<td>44.9 59.1</td>
<td>-</td>
<td>43.8 17.6</td>
<td>54.8 150.6</td>
<td>150.6 4</td>
<td>735.4 17</td>
<td>370.8 9</td>
</tr>
<tr>
<td>6. Processing/Storage</td>
<td>53.3 38.6</td>
<td>2.0</td>
<td>11.3 28.9</td>
<td>32.0 6</td>
<td>32.0 6</td>
<td>166.1 4</td>
<td>359.3 9</td>
</tr>
<tr>
<td>7. Other</td>
<td>7.6 30.0</td>
<td>1.7</td>
<td>90.1 174.3</td>
<td>359.3 174.3</td>
<td>174.3 4</td>
<td>359.3 9</td>
<td>359.3 9</td>
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<td>Other Components</td>
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<td>43.1 7</td>
<td>142.5 13</td>
<td>38.6 8</td>
<td>34.6 4</td>
<td>68.5 7</td>
<td>362.1 9</td>
</tr>
<tr>
<td>1. Roads</td>
<td>10.5 24.3</td>
<td>32.1 7</td>
<td>61.2 27.1</td>
<td>32.1 10</td>
<td>10.7 3</td>
<td>32.1 10</td>
<td>10.7 3</td>
</tr>
<tr>
<td>2. Water Supply</td>
<td>8.1 16.3</td>
<td>14.9 4</td>
<td>32.4 4.2</td>
<td>8.4 2</td>
<td>2.0 3</td>
<td>18.5 4</td>
<td>32.4 4.2</td>
</tr>
<tr>
<td>3. Electrification</td>
<td>7.1 18.2</td>
<td>3.6 1</td>
<td>18.2 3.6</td>
<td>18.2 3</td>
<td>18.2 3</td>
<td>18.2 3</td>
<td>18.2 3</td>
</tr>
<tr>
<td>4. Housing</td>
<td>2.8 0.3</td>
<td>7.2 1</td>
<td>2.7 6.9</td>
<td>2.7 6</td>
<td>6.9 -</td>
<td>6.9 -</td>
<td>6.9 -</td>
</tr>
<tr>
<td>5. Education</td>
<td>3.8 0.9</td>
<td>-</td>
<td>14.5 -</td>
<td>-</td>
<td>- 0.3</td>
<td>13.4 -</td>
<td>13.4 -</td>
</tr>
<tr>
<td>6. Health</td>
<td>1.5 0.3</td>
<td>-</td>
<td>9.5 1.5</td>
<td>-</td>
<td>- 0.3</td>
<td>13.4 -</td>
<td>13.4 -</td>
</tr>
<tr>
<td>7. Other (Community Centers, etc.)</td>
<td>3.1 8.6</td>
<td>-</td>
<td>11.5 3.3</td>
<td>11.5 3.3</td>
<td>3.3 0.3</td>
<td>3.3 0.3</td>
<td>3.3 0.3</td>
</tr>
<tr>
<td>Contingencies (Price and Physical)</td>
<td>99.2 29</td>
<td>182.1 30</td>
<td>342.1 33</td>
<td>186.4 33</td>
<td>211.5 26</td>
<td>170.6 19</td>
<td>1,191.9 28</td>
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<tr>
<td>TOTAL</td>
<td>346.5 100</td>
<td>596.9 100</td>
<td>1,046.4 100</td>
<td>502.8 100</td>
<td>806.3 100</td>
<td>919.7 100</td>
<td>4,218.6 100</td>
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</tbody>
</table>
### Agriculture and Rural Development Projects FY75

**Multi-Sector and Single-Sector Rural Development Projects and Other Agriculture by Regions**

<table>
<thead>
<tr>
<th>Region</th>
<th>% of total Projects</th>
<th>% of Total Projects</th>
<th>% of Total Projects</th>
<th>% of Total Projects</th>
<th>% of Total Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Africa</td>
<td>62.8</td>
<td>191.9</td>
<td>33.0</td>
<td>77.3</td>
<td>100.0</td>
</tr>
<tr>
<td>W. Africa</td>
<td>17.5</td>
<td>25.1</td>
<td>19.6</td>
<td>29.1</td>
<td>100.0</td>
</tr>
<tr>
<td>LAC</td>
<td>19.7</td>
<td>8.5</td>
<td>9.9</td>
<td>19.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Pacific</td>
<td>1.4</td>
<td>131.8</td>
<td>12.8</td>
<td>1.3</td>
<td>100.0</td>
</tr>
<tr>
<td>S. Asia</td>
<td>3.0</td>
<td>51.1</td>
<td>11.0</td>
<td>1.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Note

1. Single Sector Rural Development Projects are defined as projects with more than 50% of the estimated benefits from the project accruing to the rural poor ("target population"). Multi-Sectoral Rural Development Projects are projects with at least 25% of the project cost in non-agriculture investments. (See further World Bank Rural Development - Policy Paper 1975.) The classification in FY75 is highly tentative as appraisal reports as a rule do not include detailed explicit analysis on the distribution of benefits.
### AGRICULTURE AND RURAL DEVELOPMENT PROJECT FY1975

#### Project Averages

<table>
<thead>
<tr>
<th></th>
<th>E. Africa</th>
<th>W. Africa</th>
<th>L.A.C.</th>
<th>E. Asia/Pac.</th>
<th>S. Asia</th>
<th>EMENA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average Project Cost</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(US$ Mil.)</td>
<td>38.5</td>
<td>29.8</td>
<td>42.2</td>
<td>83.8</td>
<td>73.3</td>
<td>65.7</td>
<td>60.3</td>
</tr>
<tr>
<td><strong>Average Bank Loan/Project</strong></td>
<td>13.8</td>
<td>16.2</td>
<td>42.2</td>
<td>32.2</td>
<td>36.4</td>
<td>28.2</td>
<td>26.5</td>
</tr>
<tr>
<td>(US$ Mil.)</td>
<td>35.8</td>
<td>53.7</td>
<td>40.3</td>
<td>38.4</td>
<td>49.6</td>
<td>42.8</td>
<td>44.0</td>
</tr>
<tr>
<td><strong>Average food-crop prod./proj. volume (‘000 tons)</strong></td>
<td>37.3</td>
<td>24.3</td>
<td>104.5</td>
<td>201.9</td>
<td>196.5</td>
<td>190.4</td>
<td>109.1</td>
</tr>
<tr>
<td>(US$ Mil.)</td>
<td>3.5</td>
<td>7.5</td>
<td>17.5</td>
<td>21.9</td>
<td>21.8</td>
<td>24.4</td>
<td>14.9</td>
</tr>
<tr>
<td><strong>Average non-food product.</strong></td>
<td>19.5</td>
<td>1.1</td>
<td>16.4</td>
<td>7.3</td>
<td>16.8</td>
<td>13.6</td>
<td>12.3</td>
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<tr>
<td>incl. livestock (US$ Mil.)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Average number of direct beneficiaries/proj. (fams.)</strong></td>
<td>28,200</td>
<td>26,300</td>
<td>20,500</td>
<td>104,000</td>
<td>128,500</td>
<td>18,500</td>
<td>14,100</td>
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<tr>
<td><strong>Average investment/ben. family (US$)</strong></td>
<td>1,754</td>
<td>1,259</td>
<td>5,105</td>
<td>1,208</td>
<td>697</td>
<td>3,822</td>
<td>1,568</td>
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<tr>
<td><strong>Average output/investment</strong></td>
<td>0.60</td>
<td>0.39</td>
<td>0.29</td>
<td>0.23</td>
<td>0.48</td>
<td>0.54</td>
<td>0.44</td>
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<tr>
<td><strong>Creation of full-time employment/project</strong></td>
<td>1,500</td>
<td>1,000</td>
<td>13,700</td>
<td>24,500</td>
<td>4,500</td>
<td>3,000</td>
<td>5,700</td>
</tr>
</tbody>
</table>

1/ Excluding projects not aimed directly at production and/or projects for which no quantitative data are provided in the appraisal reports.

2/ Only projects explicitly showing number of beneficiaries in appraisal report.

3/ Total estimated value of agricultural production to total project investment.
<table>
<thead>
<tr>
<th>Subsector</th>
<th>FY71 and FY72</th>
<th>% FY73 and FY74</th>
<th>% FY75</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Credit</td>
<td>255.8</td>
<td>30</td>
<td>240.3</td>
<td>13</td>
</tr>
<tr>
<td>Area Development</td>
<td>51.6</td>
<td>6</td>
<td>272.6</td>
<td>14</td>
</tr>
<tr>
<td>Irrigation</td>
<td>201.3</td>
<td>23</td>
<td>621.9</td>
<td>33</td>
</tr>
<tr>
<td>Livestock</td>
<td>176.7</td>
<td>21</td>
<td>314.9</td>
<td>17</td>
</tr>
<tr>
<td>Agricultural Industries</td>
<td>39.6</td>
<td>5</td>
<td>204.0</td>
<td>11</td>
</tr>
<tr>
<td>Crops</td>
<td>95.4</td>
<td>11</td>
<td>167.3</td>
<td>9</td>
</tr>
<tr>
<td>Research</td>
<td>12.7</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fisheries</td>
<td>8.9</td>
<td>1</td>
<td>28.6</td>
<td>1</td>
</tr>
<tr>
<td>Forestry</td>
<td>-</td>
<td>-</td>
<td>20.0</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>13.5</td>
<td>2</td>
<td>24.0</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>855.5</strong></td>
<td><strong>100</strong></td>
<td><strong>1,893.6</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td>Total Bank/IDA</td>
<td>5,146.3</td>
<td>7,721.3</td>
<td>5,895.8</td>
<td></td>
</tr>
<tr>
<td>Share of Agriculture (%)</td>
<td>15.7</td>
<td>24.5</td>
<td>31.5</td>
<td></td>
</tr>
</tbody>
</table>
Mr. Berman

R. Overby, OE&HA

"Farm Enterprise Schemes"

While I was on leave I understand Mr. Goering informed you to that effect as regards the timing of possible comments from me to his June 17 memo on subject draft paragraphs.

I endorse the approach set forth and am in favor of combined experimentation with various approaches toward evolvement of systems that better serve the objectives while maximizing settler family contributions.

cc: J. Goering
    B. Luke
Mr. S.J. Burki

Graham F. Donaldson

July 17, 1975

Farm Mechanization Issues Paper - First Draft and Proposals for Completion

1. Further to our conversation of July 15, 1975, I attach a copy of the first draft of the abovenamed Issues Paper put together by Messrs. Duane, Peprah and Downing. This paper has had a limited circulation within the Agriculture and Rural Development Department of CPS and Employment and Rural Development Division of DFS and to persons who made specific enquiries in the Regions. Also attached is a copy of written comments made by Mr. M. Kaneda, Consultant to the Employment and Rural Development Division, Mr. D.D. Brown, South Asia Region, and Mr. F. Jarrett, who is here as a visitor to EDI for six months.

2. After reviewing the document and the comments received (written and verbal), we judge the first draft to be inadequate in a number of ways. Its organization leaves much to be desired; the background to the issues has not been sufficiently identified; many of the major issues have not been adequately addressed; the linkages between mechanization and other aspects of technology have not been fully discussed; there are some errors in the economic logic; and appropriate guidelines have not emerged from the discussion. (This situation has arisen because of the transfer of Mr. Duane to East Africa, resulting in the drafting being excessively hurried).

3. As a consequence, it is proposed that the paper be withdrawn and re-scheduled in order to allow further analysis of the issues and re-writing. The first step will be to prepare a new outline, indicating where material from the existing draft can be used. This will be circulated for discussion.

4. It is also proposed that the title of the paper be changed from "Issues Paper on Farm Mechanization" to "Policy Paper on Farm Technology". The reasons for this are that by extending the paper we can: (i) include issues which are now more critical than but integrally related to farm mechanization (issues on mechanization being by now fairly well agreed); (ii) give some breadth and perspective to the analysis, though it may still lack depth because of the relative complexity and current state of knowledge on the subject; (iii) develop the linkages which are critical to the role of mechanization, such as irrigation pumping, HYV seeds and other elements of technology packages; (iv) discuss the technological issues in terms of farm systems and their development; and (v) avoid some of the inter-personal conflict that surrounds the subject of mechanization (or rather tractors), when narrowly identified. It is proposed that this should be done without in any way diminishing the treatment of the issues that relate to mechanization in Bank projects.

5. It is further proposed that a new first draft be prepared as a collaborative effort by myself, Frank Jarrett (EDI), Javed Burki, Ralph Hofmeister, Chuck Downing and Ignatius Peprah. If appropriate, Hiromitsu Kaneda might contribute to the drafting on a consultative basis prior to his joining the Bank toward the end of the year or once he has joined.
6. A review of the first draft should be made by reference to a panel including, among others, Montague Yudelman, Colin Bruce, Mark Leiserson, David Haynes, Chuck Weiss, David Turnham, Ted Rice, and Hiromitsu Kaneda.

7. A first draft should be expected by the end of December, 1975 and not before. This timing allows for further analysis and discussions and takes account of the existing workload of the proposed contributors. A revised outline should be circulated and agreed by the end of the first week of August, 1975.

cc and cleared: M. Yudelman

July 16, 1975

Graham,

Enclosed are some comments on the issues paper together with some thoughts on the best of theory involved.

Thurs.

Frank Jaretz
Brief Comments on "Agricultural Mechanisation Issues Paper"

1. This is a paper on issues but the issues are buried in too much detail which could be relegated to an annex. Most of the issues, labour absorption or displacement, price distortions, polarization between "small" and "large" farms and between regions, land redistribution, the timeliness of operations are all mentioned but are scattered throughout the paper. Surprisingly, the balance of payments problems of Third World countries do not get a mention and yet it is arguable - and there is some empirical support - that it is the large farms which will produce the marketable surplus and which will allow import replacement to occur. At the same time it is the same marketable surplus which will keep food prices (the major wage goods) down and allow manufactured exports to be more competitively priced as well as helping to reduce pressures on the general price level.

2. The paper presents a factual record of past Bank lending policy showing the surprisingly high mechanization content of many previous Bank loans, although some of this mechanization is really for irrigation equipment which hardly seems to fit in the same ball park as tractors. Because only one dimension of agricultural technology - capital services embodied in plant and equipment - is treated the discussion walks on one leg. If it is to walk on two legs then other dimensions of agricultural technology need to be included. This would involve innovations which are chemical, biological and organizational, whereas the paper really focuses on engineering - mechanical innovations. From some points of view some of these innovations may have greater labor displacement possibilities than the mechanical - engineering ones. For example, an economical weed
supressant which entailed no tillage could have tremendous implications on labor usage in agriculture and the Bank should have a lending policy on such an innovation just as much as on the engineering-mechanical one.

3. The early discussion pages 2-4 is confused because it does not distinguish between changes in relative factor prices and shifts in the production function. Sometimes the argument runs as if the absolute level of wage rates were the determinants of the degree of mechanization. This is difficult to accept quite apart from any exchange rate distortions that may exist in using between country data. To use the absolute level of wages presupposes the existence of some standard and none is formally presented. The regression analysis in Annex 3 also uses rural wages as one of the explanatory variables of the degree of mechanization, the latter defined as total HP of double and single-axle tractors/thousand agricultural workers. At the micro level, and I suggest far between country analysis, it is relative prices and changes in these that cause the substitution of capital for labor.

4. The discussion of the role of mechanization in economic development involves not only factor substitution for a given technology but also the embodiment of new technological innovations. The traditional argument is that these new technologies free resources, particularly labor, to produce additional goods and services and economic growth thus occurs. Some of the expanded growth in output may be within agriculture for example, allowing multiple cropping and some may be in the non-agricultural sectors. The extent of the non-agricultural growth will depend on the linkages between the farm and non-farm sectors and how effective the institutional arrangements are in facilitating the transfer of the freed resources. The Bank's lending policy may make the additional resources available for mechanization and the freed labor resources may find alternative productive
employment. However, if the lending policy is such that the basic machine is provided but the local government must marshal the resources for operating purposes, (spare parts, fuel) then it is conceivable that these new resource demands on the local government may have to come from high value alternatives. If this is so the net value of output increases from the new technology will be reduced and may even be negative.

5. Much of the discussion on the effects of mechanization on labour displacement has been partial and the evidence is conflicting. Where detailed analysis of the effects of mechanization along with HYV's on farming systems has been carried out e.g. Billings and Singh (1969) there is evidence of some labor displacement but the evidence suggests that some of the labor released is family labor including women and children who do not necessarily add to the rural or urban unemployed. Indeed there is a very real sense in which the release of women and children from hard physical work contributes to the welfare of the rural community. An example from Papua New Guinea illustrates the point. In the Goroka highlands a particular village grouping was successful in expanding the output of a staple (kau kau) sweet potato. With the help of agronomists' work on new varieties and cultural practices a marketable surplus was generated. The women of the village then exerted pressure to use this surplus to buy a tractor which would relieve them of the hard physical work of ground preparation and cultivation. Given the social framework that existed there was no labor displacement, physical output increased, labor inputs decreased and growth occurred - at least for this village. Had of course the social system involved landless agricultural laborers who did not directly share in the output but were paid on a casual basis, the story would have been different. The moral of this illustration is that the consequences of mechanization will depend on the way in which
agriculture is organized. Private enterprise agriculture with private ownership of land - the Indian or Pakistani case - will require a different scenario than a collectivized agriculture - the Chinese case.

There are also cases, some of which are cited in the issues paper of substantial labor displacement in some areas. The Humantha Rao study cited for the Indian Punjab, although it is still partial, suggests that the package of irrigation, HYV's and mechanization has contributed to output and employment even without the linkages effects. A more aggregated Indian study by Mellor and Mudahar suggests that modernization of agriculture in the food grain sector leads to increased employment, the increases in employment by sectors are ranked as follows:

First, the non-food grain sector of agriculture - 5.7 to 6.1 per cent.

Second, the non-agricultural sector - 3.9 to 4.2 per cent.

Third, the food grains sector - 2.9 per cent.

These employment increases are generated by an exogenous injection of new technology, in the main the conversion of unirrigated food grains acreage to irrigated acreage with double cropping with food grains production growing at 3.9 per cent as a result of these changes.

There are several aspects of the Mellor-Mudahar model one might question but it does attempt to provide a more general equilibrium analysis of technological change in agriculture, at least of a particular sort of technological change. Whether alternative technologies would do better or worse - assuming we have criteria for better or worse - is a matter for investigation. In this context, however, one could raise the question of whether the Bank's lending policy on mechanization is fostering the use of a technology which is inappropriate for the factor endowments and relative prices of factors in some countries. The technology is
essentially Western in origin, reflects different factor endowment's and different relative prices and is often over-specified for the agriculture of Third World countries.

7. Certainly one of the issues is whether the scientists and technologists can develop - whether in developed or Third World countries - technologies which will reflect relative factor endowments without the loss of quality standards. I leave the discussion of the other issues until it has been clearly decided what the problems are.
THE MICRO-ANALYSIS OF TECHNOLOGICAL CHANGE IN AGRICULTURE

1. Population growth in Third World countries poses problems in terms of poverty - of which nutrition concerns agriculture - and in terms of employment. Given the distribution of population in many Third World countries, with the bulk in the rural sector, and doubts about the ability of the non-rural sector to absorb this growth in the labor force attention has turned to the potential capacity of the agricultural sector to absorb more of this growth.

2. At the firm level the question of relative factor uses has at least two dimensions. The first is the effect of prices on factor combinations and the second is the role of technical change in altering factor combinations. For the sake of simplicity only two inputs are assumed, labor and capital. Both are not homogeneous aggregates since capital clearly represents a heterogeneous collection of services derived from fixed plant and equipment to working capital services embodied in inputs like fertilizer. Similarly, labor is a heterogeneous collection of services including family labor, hired labor for contract services like ploughmen, tenant labor and casual hired labor from landless agricultural workers who bring no capital services as do the ploughman. A further abstraction is that land is ignored and yet, in the longer term especially, substitution between capital services such as fertilizer and land is clearly feasible and in many Third World countries the agricultural systems practiced exploit this substitution possibility.

3. The focus then is on relatively large aggregates and on the two inputs which are traditionally discussed in the context of "men versus machines".
4. With only two factors of production we can use a factor proportions criterion in classifying the effects of changing relative prices and changes in technology. However, in a strict sense we should restrict the substitution to a given volume of output and a given time period. In the latter case this restriction avoids the problem of technical change which is say, capital using in the early gestation period but is then is capital saving subsequently.

5. In Figure 1, the isoquant I represents the say, 100 units level of output with current technology. Since we are postulating an agricultural firm, factor prices are taken as green. The green factor prices may be buttressed not by an appeal to perfect competition, in which an individual firm can levy inputs at prevailing market prices, but by a situation where factor prices are administratively fixed. That is, there may be minimum or other statutory wage legislation and administrative control of capital goods prices, but I have presented the most likely outcome of relative prices being set so as to favor capital substitution. It is well known a number of Third World countries manipulate imported capital goods prices to make farm equipment cheaper than it would otherwise be.

6. Given that relative factor prices have been distorted to favor capital for labor substitution the least cost factor combination is at A. In the absence of these price distortions the price relativities would result in the firm choosing the factor combination given by B. The extent to which the distortions result in excessive use of capital at A will depend on first the degree of the distortion and second on the marginal rate of technical substitution between the factors. At the margin if the technical requirement to stay on the same isoquant is such that a unit of capital substitutes for relatively large amounts of labor then the labor displacement consequences of a given price distortion are greater. The marginal rates
of substitution will depend on the nature of the underlying production function, or at the operational level, on which farm process is being considered.

7. In the context of this discussion shadow prices are an attempt to get the firm to move closer to the factor combinations implied by B.

8. A new technology II is now discovered with the isoquant representing the same 100 units of output shown for technology I. Technology II is everywhere superior to I. With the given distorted prices the firm moves to the factor combinations implied by position D. The capital-labor ratio is now greater than it was at A so on this criterion technology II is capital using and labour saving. The distortions together with the new technology further exacerbate the displacement of labour. If the price distortions are removed the firm moves to C which implies that the capital-labor ratio is unaltered - the technology is now neutral in the sense that the capital-labour ratio is unchanged.

9. Because the new technology has lowered the cost structure of the firm the most profitable level of output is now higher and the firm will move along its expansion path to higher isoquants. If the price distortions remain the expansion path will run through D. If the distortions are removed the expansion path will run through C.

10. The extent of the expansion in output will depend on the industry effects of increased output of those firms adopting technology II and since this is everywhere superior to technology I a firm would be irrational not to adopt. If demand is elastic then the shift in the industry supply function which results from the new technology being adopted by firms will result in a relatively greater increase in quantity demanded than if demand is inelastic. There will thus be differential effects on the demand for labor, the more elastic demand leading to greater demand for labor. However, it seems clear that for a given elasticity of demand, the
expansion path through \( D \) will absorb less labor in aggregate than the expansion path through \( C \) so there is a pay-off in terms of labor absorption in removing the price distortions.

11. Suppose it were possible to ask the research institutes to discover a new technology III. If the distortions remain there will still be some substitution of capital for labor as the firm moves to a factor combination to the left and higher than \( A \). If the distortions are removed the expansion path is through \( E \) and the potential for labor absorption, for any given price elasticity of demand is clearly greater. The question is whether the research institutes can develop such a technology but whether they can or not the price distortions should be reduced.

12. In the Hayami-Ruttan model of induced innovations farmers adopt innovations to economize on the relatively scarce factor. Some of these innovations originate with farmers themselves, a learning by doing process. Many of the innovations, at least in the US, originate in the agricultural experiment stations. Even these are sensitive to changes in relative-factor prices say Hayami-Ruttan. The mechanism is that organized farm groups communicate with experiment station directors who then select research projects which will reflect the felt needs of the farmers. But does such a mechanism exist in Third World countries? Or are they simply borrowing Western Technology which reflects different factor endowments and different relative price changes?
Fig. 1
Mr. Hollis B. Chenery

July 15, 1975

John A. Holsen

Poverty Study

1. I attach a copy of the study of poverty and policies in Guatemala which I mentioned this morning. This represents, as I recall, the results of three weeks in the field and four or five weeks to write up the results. This report was summarized in the subsequent economic report on Guatemala; the full text circulated only in the attached draft form. I think the country program department staff learned something from this report. The authorities in Guatemala were also interested in the approach—to the extent that, after reading it, the Planning Office hired the author as its own consultant. The author, Richard Webb, was a consultant at the time but is now a Bank staff member.

2. The alternative approach to the poverty study that was suggested this morning should combine a number of elements. One would be low-budget, policy oriented country studies such as the attached. Another would be regional studies—within-country regions such as Northeast Brazil or multi-country regions such as the Sahel or the Andean Plateau. Another would be sector and special-problem studies (nutrition, education, "assisted spontaneous" colonization, etc.). These are, of course, all things we are now doing. I think it would be wise to continue with "more of the same"—but supplement it by an occasional pulling together of conclusions and reexamination of the direction (that might well use some outside help, but would not be very costly).

3. I would supplement these efforts by a major push behind household survey work in individual countries. The U.S. Bureau of the Census (with AID finance) put together a model program and training course for Latin American countries about ten years ago. It covered population, health, nutrition, housing, education and employment. It was designed as a continuing program based on interrelated sample surveys; several countries in Latin America are now using one or more parts of this household survey package. The program requires a small, but permanent and reasonably well trained, staff. Because it incorporates areas which normally are the responsibilities of a number of different ministries, it has been a hard program to get underway—but its efficiency depends in good part upon the inter-dependence of the various special subject surveys in the program.

4. This would be a relatively modest effort in comparison with the proposed "PSP"—but I think more realistic. It would look more at individual countries, problems and programs rather than prepare a "grand design." The Bank is poorly situated to do the latter. The subject is too political for us to handle as a whole. Let us confine ourselves to those parts where we are likely to be helpful to those countries that want our help.

cc: Messrs. Stern / Gulhati / R. Krishna / Pyatt / Balassa / Ahluwalia / Duloy
R. Norton / Waelbroeck
OFFICE MEMORANDUM

TO: Mr. Graham Donaldson through Mr. W.H. Spall

FROM: Dorris D. Brown

DATE: July 11, 1975

SUBJECT: Agricultural Mechanization Issues Paper -- Duane, Peprah, Downing -- First Draft

1. The purpose of the paper is not clear. Is it a policy paper for the Board similar to policy papers on Agricultural Credit, Land Tenure and Rural Development? Or is it a paper leading to terms of reference for another field study. Or is it a summary of the "state of the art" and investment strategy in developing countries or something else? If it is to be revised, the purpose should be clarified.

2. This report appears to be mis-titled. It is more correctly a review of the role of agricultural mechanization in Bank Group financed projects and a general discussion of the role of mechanization in agricultural development. The issues items narrated in paras 82 and 103 are more accurately described as appropriate considerations for terms of reference of project identification and appraisal missions, they are not solid issues to be reviewed for policy guidelines. The alternative theories given in paras 160-167 are only partial (and misleading) scenarios. The section on Impact of Mechanization deals with tractors, whereas the tractor component in Annex 2, Table 3 is only 40% of the total. Mechanization for minor irrigation, land development, etc. are neglected. The section on future strategies proposes policy actions that are not supported by the data and analysis. For example, how does the Bank Group determine if a country is insensitive to the interests of rural labor? Or how do we measure uneven and premature mechanization?

3. If it is accepted that the purpose of agricultural mechanization (as defined in paras 2-4) is to strengthen and expand the productive ability of human labor, then Bank Group lending for this purpose makes good sense. Policy guidelines may be structured around how to maximize benefits (financial and economic) from such investments in developing countries. Such a concept rejects the paper's thesis (para 5) that: "the primary purpose and outcome of mechanization in an ideal world is to replace 'scarce human labor inputs' and the theoretical concepts given in paras 160-167. Too much of the report's statements are biased to the "replacement of labor" concept rather than the "expansion of labor productivity" concept. As a result, the real policy guideline issues fail to emerge in a clear and concise manner.

cc: Messrs. Peprah, Downing

DDBrown/irl
OFFICE MEMORANDUM

TO: Mr. Graham Donaldson, Agriculture & Rural Dev.  
FROM: Hiromitsu Kaneda, Consultant, ECER

DATE: July 11, 1975

SUBJECT: Mechanization Issues Paper - Notes on the Discussion Draft

1. I must make it clear at the outset that there are many good points and significant insights scattered in the draft. It is obvious that the authors appreciate some vital issues pertaining to agricultural mechanization in less developed countries. Without a cogent and coherent analytical framework (or some basic reference system), however, the issues chosen cannot be comprehensive enough nor can they be developed satisfactorily. It is my judgment that the draft suffers from a weak organization.

2. It appears that another source of difficulty with the draft is its weak use of economics (and statistics).

(i) Instances abound (para. 7-16 to start off) where basic arguments in capital-labor substitution are couched in the absolute levels of wage rates rather than in terms of the relative factor prices. The only logical explanation for this lapse seems to be the statistical study in Annex 3, for which I fail to see any justification other than for curiosity sake.

(ii) A similar lapse from the basics of neoclassical economics can be seen in the discussions relating to taxes (para. 144), the exchange rate and traded goods (para. 145), and tariffs (para. 146), which are dealt with in absolute terms. The question, of course, is not the absolute levels of these variables, but the relative magnitudes of the taxes and duties with respect to different categories of goods and services, including agricultural machinery. The issue should be addressed in terms of the tariff structure that exists and the tax/subsidy structure that characterizes an economy in question.

(iii) The authors' "Two Alternative Theories" are not theories at all. They should be termed "hypotheses" for they require testing with the tools of economic theory (political economy, for that matter), including econometrics.

(iv) Why use H. Rao's study and A.S. Kahlon's study and exclude yours with McInnery?

3. As I started to jot down specific comments on the margin of the draft, it became obvious to me that the exercise was futile. I am convinced that the draft requires a major reorganization and a good deal of rethinking beyond what the authors' memo of June 19 implies. Moreover, I have come to conclude that in order to squarely address the basic issues of agricultural mechanization in the context of agricultural/rural development, a new perspective is indispensable. To improve the draft, then, I would like to indicate some basic considerations that would underlie an alternative if I were to write one. Please remember, however, that I have had only 2, 3 weeks.
Some Basic Considerations: Agricultural Mechanization Issues in Today’s LDCs

4. Agricultural mechanization issues do not exist in a vacuum. What makes them a subject of often heated debates is that agricultural mechanization takes place in the total realities of today's less developed countries. Issues of agricultural mechanization cannot be abstracted from the pressures exerted upon and the environment that characterizes the agriculture of these nations. In this regard, there are several, interrelated factors of particular significance worthy of attention at the outset.

5. In the first place, both the rate of population growth (approximated to be in the neighborhood of 2.5% per annum) and the generally accepted high income elasticities of demand for agricultural products in less developed countries imply that a rapid rise will ensue in the effective demand for these products, even if per capita income grows rather moderately. Due to individuals preferences for various goods, some items will have faster growth than others and some will lag behind. Nonetheless, it is recognized that the agricultural sector's continuing challenge is to meet the projected increases in demand. Were we also to pay attention to alleviating the problems of malnutrition and under-nutrition, the challenge would be still greater.

6. Secondly, one must consider the implications of the "arithmetic of population growth" for the expected growth of the potential labor force in the agricultural and the non-agricultural sectors. The harsh reality of a rapidly rising population coupled with the fact that a very large proportion of population is under 14 years of age, dictate that the potential growth in the labor supply is an essential component of any discussion relating to the strategy of development. By virtue of the fact that agriculture employs the largest proportion of the labor force and that the rural sector provides an even more substantial proportion of the population with their livelihood, it is to be understood that the agricultural/rural sector has a special role to play as the most important "self-employment sector."

Under these (and in the foreseeable future unchanging) conditions, this sector must not only retain the current level of the employment opportunities but also absorb additional numbers which are unable to find employment in the non-rural sectors. It should be noted that the rural-urban migration and the problem of generating sufficient employment opportunities for the migrants cannot be dealt with solely in the urban-industrial-service sectors. These problems are at once the necessary consequences of the labor absorption problem in the urban sectors and the reflection of the difficulties of providing the rural population with sufficient employment opportunities and fair prospects for the rise in their incomes at a rate commensurate with those in urban centers.

7. The third, and often neglected, factor to be considered explicitly relates to what we obliquely call the "institutional factors." The environment of agriculture at issue here is the grossly unequal distribution of cultivated land holdings and the consequent unequal distribution of power among different groups of individuals (i.e., landlords, owner-cultivators,
tenants, and landless workers). There are two elements of particular interest requiring our attention here. One is for us to recognize explicitly that these "institutional factors" are part of the context of rural development. It is hardly a justification to blame, as is often done, the weaknesses and/or inequities of the institutional environment for the failure of agricultural programs and projects. We have to recognize what they are and deal with them. More often than not, their very neglect has led to the unfulfilled expectations and failures of "inputism" (including tractors) in agricultural plans. A second important element (which was specifically mentioned in the Nairobi Declaration) is the distribution of benefits (and costs) among different groups of individuals that comprise the environment of agriculture. In the context of agricultural development strategy this means minimizing that proportion of population left out of the benefits of development and/or suffering from its adverse consequences as one aims at maximizing the "growth rate."

8. Thus, the challenge facing the agricultural/rural sector is not only to meet the expected rapid rise in demand for output and to retain, and even absorb, labor, but to attempt these in the difficult environment that is expected to persist for some time to come. In my judgment, recognition of this particular set of circumstances is crucial for setting the stage for a discussion on agricultural mechanization issues. Agricultural mechanization is but one alternative technological innovation in the design of developmental strategy; and is therefore not so much an engineering problem as a problem in political economy.

9. The twin goals of output growth and employment generation can be accomplished only if the productivity of labor can be raised without reducing the demand for labor. This calls for either an increase in non-labor inputs (land, capital, or whatever) or an introduction of new technology that combines these factor inputs in a new fashion. By the same token, the almost universal pressure on the land/man ratio in less developed countries can be eased only if cropped land can be expanded. The basic question is, therefore, whether the new technology embodied in capital (in the form of machines) can expand land (cropped land, as distinct from cultivated land) efficiently and equitably. Recognition of the problem of distribution of benefits and costs of new technology, relative to the size distribution of cultivated land holdings as it exists in the countryside necessitates further scrutiny of machine technology. Mechanical technology has to be considered not only in terms of capital-labor substitution (in response to relative factor prices) and in terms of complementarity with other resources (off-farm and on-farm), but also in terms of divisibility and adaptability of discrete units of actual machines. Thus, alternative technologies in agricultural development strategy should occupy a due share of agricultural mechanization discussion.

10. Alternative technologies in crop-oriented agriculture can be most conveniently represented by designating the productivity of labor as the product of land per man engaged in agriculture and output per unit of land. The experiences of many countries both developed and developing (but most
strikingly those of the United States and Japan) teach the following lesson in this regard. If land is in ample supply and labor is scarce, the primary emphasis of agricultural development strategy would be in an increase of land area per worker in order to increase the output of each worker engaged. On the other hand, if labor is abundant and land is scarce, the basic theme in the growth of agricultural productivity will have to be an increase in yields (per crop) and in the intensity of the use of land (say, "yield" per acre per year) to increase output per unit of available land. We may designate those technical innovations that increase land per man "land-expansion (or, extensification) technologies" and those that increase yields per unit of land "yield-increasing (or, intensification) technologies." Thus, for example, given the differences in the prices of land and labor in the United States and Japan we would expect that growth of output per worker in the United States would be closely correlated with changes in land area per worker (extensification) and in Japan with changes in output per acre (intensification). These expectations are indeed confirmed by comparative studies of agricultural development in these countries before the Second World War. As land became relatively scarce (aided by acreage restriction programs) in the United States, and as labor became relatively scarce in postwar Japan (as a consequence of a rapid growth of the economy), the sources of labor productivity growth have shifted away from the historical patterns in these countries.

11. In terms of particular inputs, additional supplies of irrigation act on both land area per worker and output per acre by increasing cultivated acreage or the cropping intensity, and by increasing crop yields. The new seeds and increased application of fertilizers in recent years have had the effect primarily of increasing yields per acre (per crop). On the other hand, herbicides and pesticides benefit yields (per crop) and to the extent that they save labor required for weeding and pest control, open up the possibility of expanding acreage per worker. By the same token, machines and implements of various types and sizes will affect the expansion of area per worker, to the extent that they save human labor required for various phases of agricultural operations, and increase yields per acre so far as they perform agricultural operations "better" than the manual labor alone.

12. One of the most important favorable effects of mechanical power and "efficient" implements have for better yields is the timely preparation of seed beds. Another is of course "efficient" (timely) harvesting and post-harvest processing of crops. (Of course, the precision in seeding and fertilizing is yet another possible favorable effect. The probability of its becoming important in the near future is slim.) Timeliness in seed bed preparation is less critical on irrigated land than on rain-fed areas, which have to rely on the moisture retained in the soil for the growth of crops. It is often argued, however, that the time element in seed bed preparation becomes of crucial importance on irrigated lands if there is a pressure to achieve multiple cropping. Nonetheless, it is important to point out that in most irrigated, arid agriculture, the most binding constraint on increasing the intensity of cropping is the availability of additional supplies of water, rather than mechanical power per se.
A dramatic illustration of opposing influences that mechanical power exerts on labor employment in agriculture can be obtained from the recent experiences of Pakistan and elsewhere. By enabling an increase in cropping intensity, the growth of power irrigation contributed to a fuller utilization of labor resources (as well as other "on-farm" resources) in agriculture and required little socio-economic adjustment in the sector. Tractor mechanization, on the other hand, led to significant labor displacement and thus added to the already critical problem of employment in agriculture and elsewhere in the economy. This is a controversial area because the question is intimately related to the institutional environment of the agricultural sectors concerned, e.g. significant disparities of the size of cultivated holdings. However, regarding tractor mechanization, there appears to be a qualified consensus on the following: (cf. Gotsch)

"(i) The repeated claims that mechanization has had an impact on yields are questionable. Most research drawing this conclusion suffers from a failure to control for other inputs and the few studies that have sought to separate out various effects have found nothing to support the hypothesis.

(ii) The argument that tractors can increase the cropping intensity and thereby increase the demand for labor must be seriously qualified. Arid areas, constrained by the availability of water, offer little scope for increasing intensity. Areas in Africa and Latin America where land is relatively abundant fall into a similar category.

(iii) Countries in which rapid mechanization by tractors has occurred under conditions that raise questions regarding its social desirability have almost universally pursued policies that created an artificially profitable economic climate for machines. Also, in almost every case, this was made possible by the activities of foreign aid donors whose mechanization loans removed the allocation of scarce foreign exchange from the overall planning process.

(iv) There are strong reasons for believing that much of the impetus for mechanization comes from the desire to alter the basic social character of production in agriculture. Evidence from a number of countries suggests that it is seen as a means of converting a landlord-tenancy system into one in which land is personally managed and farmed with wage labor. The benefits that follow from such a change are the increased security of claims to the land in the event of land reforms, the avoidance of the need to confront local institutions regarding the appropriate sharing arrangements between tenant and landlord, and the more effective exploitation of the land and water resources through effective management techniques."
14. Additional characteristics of mechanical-engineering technology requiring attention concern the closely inter-related issues of "divisibility" (i.e., "indivisibility" being the source of economies of scale) and "adaptability" to the given socio-institutional environment. Mechanical-engineering technology in agriculture can embrace a wide range of different configurations involving motive power, machines and implements, which can be classified in many ways. From the political economy point of view, it is essential to recognize that mechanization can be applied to each specific farm operation and to several or all of the farm operations; and that mechanization as introduced into a given socio-economic organization of agriculture may call for minor adjustments or it may require (in order to avoid undesirable consequences) highly sophisticated levels of organization and cooperation not easily attained in a given situation.

15. The first distinction recognizes the many different operations related to growing and harvesting of crops, such as levelling of land, irrigation/drainage, ploughing, seed bed preparation, planting and fertilizing, crop protection, harvesting, and preparation of products. Machines and implements can be designed specifically for a limited number, for many, or for all of these operations. Aside from implements relying on human or animal power, tubewells, low-lift pumps and power threshers, power tillers, dusters and sprayers are examples of machines designed specifically for limited tasks. On the other hand, the development of the tractor and so-called power take-off, together with the development of various implements, make possible the more direct and widespread application of engine power to many different operations. In the United States, for example, all cultivation processes came under the aegis of mechanical power; and harvesting process and many post-harvest operations became thoroughly mechanized with the advent of the self-propelled combine harvester.

16. Second, it is worth emphasizing that the increase in the size and specialization of farms has been one of the most significant changes in the farm structure and organization associated with the adoption of tractor mechanization in the United States. Modern equipment and machines are so expensive in many instances that it is advantageous for the farmer to develop larger farms and enterprises (i.e., specialize) to make full use of the new resources and to hold down the unit costs. The typical relationship between area and unit costs is a curve that shows a steep decline in costs until utilization reaches about one fourth to one half the maximum possible with the machine; thereafter a very moderate reduction in costs takes place with greater use. High costs per acre, or per hour, with limited use reflect, of course, the fixed charges that are unrelated to the actual use of the machine. Thus, the introduction of larger, indivisible machines and implements necessitates large management units, output standardization, and uniform cultural practices; these, in turn, call for a highly sophisticated organization or (in order to avoid the undesirable consequences of extensification in lands characterized by poor land/man ratio) highly sophisticated cooperation among the parties of conflicting interests.
17. Biological and chemical innovations that have characterized the Green Revolution (seed and fertilizer) are eminently divisible and can therefore be made neutral to the scale of farm operations. The inevitable complementary input to this technology (i.e., water) is neutral to scale by itself, but may be subject to certain levels of indivisibility depending on the mechanical technology adopted in bringing it to the farm. Much smaller sized farms, in the Punjab, for instance, could adopt tubewells with relatively minor adjustments in contrast to, say, tractors and combines. By making it possible to grow more crops more lucratively per unit of cultivated land, tubewells have increased the use of labor on farms as well as the incomes of farm workers concerned. They would be conducive to augmenting the income of the bulk of farmers, and would retard the polarization of the rural population and land holdings.

18. One further factor to be considered relates to the inter-relationship between agriculture and nonagricultural sectors of the economy. This relationship is multi-dimensional and involves not only the "forward" and "backward" linkages of the agricultural sector in relation to other sectors of the economy, but also the patterns of consumption expenditure that the incomes earned in agriculture generate. One cannot overemphasize the need for an integrative approach to economic development in which the positive interaction between agricultural development and industrial growth can be exploited. The divisibility of mechanical innovation bears directly on this issue.

19. First, a concomitant of rapid growth of the agricultural sector in the Punjab has been the burgeoning of a small-scale engineering industry which supplies key durable good inputs mainly diesel engines, pumps, and strainers for tubewells, but also various machines and implements for selected operations. This growth industry, located at various points around the Punjab, attracted the attention of a number of economists for at least three important reasons (which are relevant considerations in mechanization issues discussion):

(i) It is a clear example of specific industrial/agricultural interaction, i.e., agricultural growth has generated demand for output of the domestic, rural manufacturing sector, while conversely, the supply of agricultural inputs has been the sine qua non of the Green Revolution.

(ii) The industry is truly small-scale, and, hence, has been a vehicle for marshalling indigenous "minor" savings/investible funds, for development of entrepreneurial talent and management skills, for training of skilled and semi-skilled labor and for application of "new" technology.

(iii) This development has occurred spontaneously without subsidies, tax concessions, special credit arrangements, technical assistance or even recognition by official agencies. (cf. Kaneda and Child)
This industry has demonstrated the viability and its positive contributions to the economy by helping to reduce the pool of partially and fully unemployed and by raising output and creating income in rural areas. These positive benefits would be aborted if the emphasis on mechanization were directed towards the indivisible, i.e. large machines either imported from abroad (in which case the benefits would be lost) or domestically produced most probably by a very highly capital-intensive and often "inefficient" method (in which case employment and income creation effects would be severely limited).

20. Secondly, it must be remembered that the agricultural sector "employs" the largest proportion of the labor force in less developed countries; hence, what happens to the incomes generated in that sector will largely determine the vicissitudes of the other sectors by way of its influence on the extent of (the effective demand in) the domestic market for their products. It is worth remembering, too, that the question of better (or more equitable) income distribution is not only a question of humanitarian and socio-political significance but is basically economic in that it cannot be divorced from the question of the optimum economic organization of the nation. The implication is clear-cut: a broadly based agricultural development is essential for creating and sustaining a domestic market for the developing indigenous industries. Thus, agricultural mechanization issues have to face up squarely with how diffused the innovation can be in the institutional environment characterized by, say, disparities of holdings and incomes, in the countries in question. Highly indivisible mechanical technology designed for use in developed countries would not be appropriate in this light.

21. Interindustry relationships, of course, are two-way streets. Agricultural mechanization as well as the advent of chemical products (fertilizers, herbicides, etc.) and increased use of fuel and electricity for farm operations, implies that the agricultural sector becomes more directly connected with the other sectors of the economy. A switch from draft animals to tractors, for instance, is not merely a mechanical innovation towards a more "sophisticated" and "indivisible" form of farm equipment; it is also a shift away from the farms' own source of supply in draft animal production and a shift away from farm-produced feed to fuel produced by other industries. (This is obviously the other side of the oft-claimed benefit of agricultural mechanization, i.e., release of the federal-acreage for food production.) This process, then, must imply increased dependency of agriculture on other sectors of the economy. Not only would agriculture become more sensitive to short-term business fluctuations, but as the recent "energy crisis" has shown it would become more vulnerable to the secular forces outside it.

Other Inter-related Issues

22. Economic development of a country involves, inter alia, decisions as to (i) how to marshall an "economic surplus" in the economy when its magnitude and location have been determined, and (ii) how to allocate that surplus
among different competing claims. The nation's desires for rapid growth, employment generation, equitable distribution, regional and sectoral balance, etc., claim a share in competition with the nation's immediate needs for consumption and social overhead expenditures. When mechanical innovations are introduced into agriculture, especially when in indivisible units so that the benefits from them cannot be pervasive, it is important to consider to what uses the increased earnings in the hands of the special group of beneficiaries would be put. If, somehow, these uses are undesirable from the society's point of view, and if the government can do better, then the possibility of mobilization of the surplus into the hands of the government (through taxation, for instance) becomes an important subsidiary issue.

23. By the same token, suppose that a mechanical innovation stimulates the emergence and growth of a subsector of agriculture, which is large-scale and capital-intensive, and is quite distinct from the "traditional" small-scale farming in which the overwhelming majority of the farmers is engaged. With such a "bimodal" pattern of agricultural development, commercial sales of output would expand faster than the growth of total output. Unless effective demand increases as rapidly as the former (which may or may not, depending on various factors other than the mechanical innovation per se), the prices of commodities that are susceptible to large-scale mechanization (say, foodgrains) must decline, or rise relatively less than others. Such a development would not only have a negative impact on the incomes of those excluded from the program (due to the worsened terms of trade for their smaller marketable surpluses), but would also give an additional positive stimulus to the large-scale farmers to further expand their operating acreage in order to cut the costs of operation per acre. Thus, it is important to consider the dynamics of introducing a mechanical innovation and its own logic of motion as it affects employment and income distribution over time.

24. The apparent so-called "labor-shortage" is often a result of what turns out to be an artificial, deliberately engineered set of circumstances that push crop cultivation extensively into sparsely populated areas or into areas with severely limited access. Once the land is cleared, levelled and planted in these areas, a myth becomes a reality, necessitating remedial measures calling for more mechanical power: a call for tractors is often followed by a call for combine harvesters. It is important to consider why and how the "labor shortage" developed in the first place. This is often a result of policy that favors capital intensity in farming. This choice of technology is made rational by such measures as: (i) providing credit for agricultural mechanization purposes at subsidized rates well below those for other uses, (ii) permitting imports of large machinery at artificially low foreign exchange rates with little, or without any, import duties, and (iii) putting the priority in allocation of foreign exchange resources to the importation of the heavy agricultural machinery. The outstanding issue here is whether it is enough to adjust for these "distortions" in order to assess the benefits and costs for the society as a whole. (I shall note some points of concern in a separate section below.)
Issues Pertaining to the Bank Operations

25. Assume that the intended impact of a mechanization project is a rise (say, at a certain annual rate) of agricultural production via, say, a rise in profits/net income of a group of farmers. This is a typical micro-oriented (farm management) formulation of an agricultural problem which is used by the Bank for a sizeable number of agricultural projects. Let us assume that a particular mechanization project is undertaken, as a favorable (private) rate of return to that group of farmers is indicated and at the same time a satisfactory social rate of return is calculated on the basis of shadow prices (with taxes and transfers eliminated). One may consider a situation where the actual beneficiaries turn out to be different from the intended beneficiaries. Let us suppose, however, that the intended impact on the selected group of farmers was actually obtained and production has increased. At the same time let us say that other groups of individuals who had been left out (projects in whose interest had never been appraised) were hurt eventually by the progress of the project. The legitimate question is why the computed social rate of return did not pick up the apparent inequity and social costs that developed later. (i) Were the shadow prices wrong? (ii) Was the "model" used inappropriate? One may also ask whether these problems can be corrected by simply incorporating, at the time of appraisal, the weighting factor for various groups of individuals a la Little and Mirrlees. The question at issue pertains to (i') whether the error has resulted from wrong quantitative specifications (errors of numerical magnitudes) or, (ii') whether the error has come from a wrong "model" (in the sense of an analytical framework involving a particular set of variables and their relationships). It is my judgment at the moment that the latter is the more crucial of the two.

26. It is a standard practice in the Bank to couch the IRR calculations on a farm "model". In this model the agricultural labor is typically divided into two separate categories, viz., self-employed (family) labor and hired (wage) labor. Wage labor is counted as an input and a deduction is made from the gross value of output for the cost of wage labor valued (in actual or shadow prices). For self-employed labor, however, no such deduction is made. Despite the fact that the return to both classes of agricultural labor belongs to the agricultural sector, the model and its dichotomy of two categories of labor imply otherwise: The use of wage labor does not increase the value added in the agricultural sector. And, of course, the result of optimizing process would be devoid of the distribution implications.

27. In the rural sector of most less developed countries where self-employment is important, the institutional relationships (distribution of land holdings and tenure systems) appear to be more important in determining income (output) shares than the so-called functional share variables. Even a small farmer, if he owns the farm, is a recipient of the shares of all his production factors and resources. The wage rate per se is not an important share variable except insofar as it concerns landless workers.
Just as it does not make much sense to have a wage policy as an incomes policy in rural areas of less developed countries, it would be a folly to expect the wage and other functional share variables to determine income distribution among different groups of farmers with varying holding sizes.

28. It seems that the project-by-project orientation of the Bank's operations, reflecting no doubt various pressures in and out of the Bank, has dichotomized the impacts of the Bank's own sectoral work and projects. As a consequence, some macro-based, sectoral policy considerations appear to be forgotten on the project level. This may be inevitable, however, unless good many projects can be prepared to cover each of the issues to be examined. Strictly speaking, project appraisal under the conditions found in most LDCs makes sense only if there are many alternatives (complementary as well as competing) projects to be compared against one another.

29. There seem to be two issues involved here. In the first place, it is desirable to check whether or not a collection of potential (or, for that matter, on-going) projects would address itself to sectoral policy issues in question. It is always difficult (and this has been one of the major problems of development policy) to link up a set of projects with the sectoral plan. Nonetheless, agricultural mechanization projects must be considered in the context of the agricultural sector policy.

30. The second issue concerns the project appraisal procedure. One is familiar with the appraisal procedure where careful comparison is (presumably) made between a situation with a project and one without. It is one thing to compare a project with doing nothing. It is surely quite another to compare a project with other (different) ways of accomplishing a primary objective (or objectives). It is hoped, has this not been done already, that some obvious alternatives are systematically tested and compared in the project form. When a mechanization project for output growth is to be appraised, it should be mandatory to include appraisals of other alternative projects for output growth (such as new seeds, fertilizers and water, etc.) as well as competing mechanization projects (with varying degrees of the "sophistication" -- capital intensity -- of the machines and implement.)

31. I have been told that the Bank does not (or cannot) work this way. It is said, for one thing, that the Bank has always done what it does well, namely, the pursuit of the project-by-project approach, and, for another, that the Bank's share of total agricultural/rural investment in LDCs would be extremely small to make any real difference. I am obviously a true novice here. Nonetheless, I would venture to offer the following issues for consideration:

(i) A natural implication of the Nairobi Declaration seems to be that we take the sectoral, macro-based, considerations seriously. Alleviation of rural poverty and growth of rural productivity (or employment and rural development problems), with which agricultural mechanization issues are
bound up, may call for a radically different, non-traditional approach for the Bank. In rural development area a lot of our knowledge seems to be more "associative" rather than "specific". (We may know that certain variables are related and, even, the direction of the relations. But we may not yet know the intensities -- quantitative magnitudes -- of the relations or specific causal relationships.) Under these circumstances the only alternative seems to be systematic checking of a set of projects with the macro considerations, designing each project carefully by incorporating the best possible quantitative specifications within our capacity. Monitoring and evaluation of these projects must be made mandatory.

(ii) I would like to think that the Bank's investment is an important portion of non-routine, "innovative", net investment undertaken in the rural sector of less developed nations. The Bank's use of resources there should make a significant difference, if it directs its projects to sectorally significant areas "on the margin". One hopes to see a concentration of the Bank's resources on a limited range of critical priorities. These priorities, however, can be determined only by a give-and-take relationships -- "feedback" relationship -- between serious sectoral work and projects. Thus, it seems to me, the Bank can perform its mission as enunciated in Nairobi only if it truly links up its projects with the sectoral policy.

(iii) There is no guarantee that when these measures are undertaken the Bank's performance as traditionally measured would necessarily improve. Monitoring and evaluation assume an even more important role in this process. Economists' role ought to expand further from monitoring and evaluation of projects to sectoral levels. But, this is something I should take up elsewhere.
July 9, 1975

Those Listed Below

M.A. Burney, DIR

FAO - Evaluation of Foreign Aid to
Agriculture in Selected Countries

You may recall receiving a copy of my memorandum to Mr. Yudelman of April 15, 1975 on the above subject (copy attached), about a visit of Mr. Mahajan (FAO) to the Bank (May 12-13). Mr. Mahajan had to postpone his plans and we have now heard that he would like to spend July 23 and 24 in the Bank (see copy of Mr. Yriart's letter of June 23, 1975 to Mr. Hoffman). After checking with you we have confirmed Mr. Mahajan's visit.

The attached papers give some indication of the purpose, scope and approach of the FAO exercise. Four countries have been tentatively selected (Tunisia, Peru, Sri Lanka, Indonesia) and the fifth would be either Nigeria or Tanzania. Mr. Mahajan, who is the coordinator of the study, realizes the enormity of the task and time and resource constraints to carry it out, but has little or no choice. Mr. Mahajan is interested in exchange of views on the outline and the plan of work of the study and especially on the selection of countries. The FAO would like the Bank not only to cooperate but to participate in this undertaking. They have been told that direct financial and staff inputs were not in the cards. This matter however may come up again. The study is to commence in September 1975.

The subject is of interest to the Bank and the study may shed some light on external aid to agriculture. It may be useful for Mr. Mahajan to meet appropriate regional, research and evaluation staff in the Bank, and for us to know more about the study. Instead of arranging a series of meetings with individuals, it may be more productive for Mr. Mahajan to brief us in an initial joint meeting on the scope of the study, its approach, timetable and criteria for country selection. He may also get some initial reactions from those attending the meeting from the regions, RDB and OED. Subsequently, smaller meetings will no doubt be necessary.

In the light of the above, this is to confirm that we will meet with Mr. Mahajan on July 23 at 10 o'clock in Room E-855. Mr. Yudelman is not available that morning and Mr. Hoffman has agreed to chair the meeting.

You may have noticed from Mr. Yriart's letter that Mr. Mahajan also expects to discuss some other papers on "flow of aid to agriculture", "medium- and long-term assistance requirements of least-developed countries" and "area development". We may get these papers on July 21 and will try to arrange appropriate meetings.

Mssrs. Yudelman/Donaldson, Willoughby, Gulhati/Leiserson
Blissall, Haynes, Hendry/Walton, Picciotto/Parsons, R. Rowe, Vergin
Mr. Hoffman
Mrs. Boskey, Mr. Grenfell
Mr. W.C. Baum

July 9, 1975

Montague Yudelman

Paper on Non-Agricultural Rural Employment

1. I note the memorandum from Mr. Demny (dated June 24) referring to discussions at the Board meeting of June 17, where Mr. McNamara undertook to have the staff prepare a paper on Non-Agricultural Rural Employment.

2. While the Bank has not addressed this matter directly, the issue of employment for rural landless and village artisans has been discussed in several places: (i) the Rural Development Policy Paper (both generally and in sections on rural industry and rural public works), (ii) in the Education Paper, (a major aspect of which dealt with vocational training for alternative work to farming), (iii) in the forthcoming Mechanization Issues Paper (in terms of service industries, farm contracting, and local manufacturing). Further, the issue will be considered more directly in two forthcoming papers: (iv) that on Public Works Programs (in which employment is the primary issue), and (v) that on Industry (where the subject should be considered in terms of (a) agricultural related industries, i.e. processing services, (b) the rural location of non-agricultural related industries, i.e. factories in market centers, and (c) small-scale industries, such as might be appropriate to villages.

3. The issue of non-agricultural rural employment is, as the above suggests, one that falls outside any sector, but which should be a concern for several sectors or sub-sectors. It would seem to be appropriately treated in the context of the five papers indicated above. There is a question as to whether this issue lends itself to attack through specific projects - rather it might be seen in a broader context, i.e. as a dimension of industrial or agricultural projects.

4. A relatively short issues paper drawing together points from the five policy papers mentioned in paragraph '2' above would be possible and may be the most appropriate. Alternatively a much better researched paper would be possible - but this would take time (say, 18 months). As a compromise, a brief short-run paper might be prepared (as above) foreshadowing a major paper at a later date.

5. In discussion with Mark Leiserson (see his memo of July 3), he stressed the view that the issue does not lead directly to purpose oriented projects, but that it is largely a supplementary issue - though a most important one. He also indicated that a major paper (along the lines of those published in the volume "Attack on World Poverty") could come from the current work program of his Division, with a lead time of some eighteen months. He also agreed that the Employment and Rural Development Division could contribute substantially to a smaller type of summary paper if that were to be done jointly between DPS and CPS.
6. Further, there is a question as to who should have primary responsibility for such a paper. Given the breakdown of responsibilities between DPS and CPS, as I understand them, the logical place for it to be done is in the Employment and Rural Development Division of the Development Economics Department. If the DPS is to be involved perhaps you might take this up with Hollis Chenery.

cc: Messrs. Gulhati
     Leiserson
     Bruce

@Donaldson: ssp
Board Paper on Non-Agricultural Rural Employment

1. Graham Donaldson and I have discussed how best to respond to Warren Lamb's request for a draft outline. I explained to him that the work program of this Division and the Industry Division already included non-farm activity and rural industrialization as a focus for both policy and research work. This is in addition to work already done in connection with the rural development policy paper, the public works paper and the agricultural mechanization paper.

2. My strong feeling is that a substantial policy paper for Board discussion in this area should be prepared carefully drawing on the work already done or in prospect with a date for Board discussion at least 18 months from now. This reflects my judgment that non-agricultural rural employment will not emerge as a separate and identifiable object for Bank project financing in the way that the Bank's rural development program has evolved. In fact, I believe it preferable to approach the problems of non-farm activities in rural areas as an important, indeed essential, component of rural development efforts in general. Under these circumstances and given our state of ignorance, any comprehensive treatment of the sort which Mr. Kalamira indicated as desirable will require more sustained and longer term preparation than would be possible within a schedule of a few weeks or months.

3. Graham indicated his general agreement with this approach. He said that he would discuss the issue with Kenty Kalamira after his return to the Bank next week and would try to get some clarification of what sort of work program, schedule and paper should be proposed. What the next steps should be can then be discussed when I return from my trip to Geneva and the U.K.

cc: Mr. D. Anderson
    Mr. C. Donaldson
    Mr. L. Westphal (with enclosure)
Paper on Non-Agricultural Rural Employment

1. In discussion at the Board meeting of June 17, Mr. McNamara undertook to have the staff prepare a paper on Non-Agricultural Rural Employment (see transcript of meetings June 17, page 83). Mr. Baum has passed this request on to us (see attached memo of June 24).

2. While the Bank has not addressed this matter directly, the issue of employment for rural landless and village artisans has been discussed in several places: (i) the Rural Development Policy Paper (both generally and in sections on rural industry and rural public works), (ii) in the Education Paper, (a major aspect of which dealt with vocational training for alternative work to farming), (iii) in the forthcoming Mechanisation Issues Paper (in terms of service industries, farm contracting, and local manufacturing). Further, the issue will be considered more directly in two forthcoming papers: (iv) that on Public Works programs (in which employment is the primary issue), and (v) that on Industry (where the subject should be considered in terms of (a) agricultural related industries, i.e. processing services, (b) the rural location of non-agricultural related industries, i.e. factories in market centers, and (c) small-scale industries, such as might be appropriate to villages.

3. The issue of non-agricultural rural employment is, as the above suggests, one that falls outside any sector, but which should be a concern for several sectors or sub-sectors. It would seem to be most properly treated in the five papers indicated above. The issue is one which does not lead itself to attach through specific projects - but has to be seen in a broader context, e.g. industrial or agricultural development. I think there is a real question as to whether such a paper is necessary.

4. Since such a paper is required for the Board, a decision has to be made as to its form. A relatively short issues paper drawing together points from the five policy papers mentioned in paragraph '2' above would be possible and may be the most appropriate.

5. Further, there is a question as to who should have primary responsibility for such a paper. Given the breakdown of responsibilities between DPS and CPS, as I understand them, the logical place for it to be done is in the Employment and Rural Development Division of the Development Economics Department.

6. Accordingly, I discussed the matter with Mark Leiserson (see his memo of July 3). He stressed the view that the issue does not lead directly to purpose oriented projects, but that it is largely a supplementary issue though
a most important one. He also indicated that a major paper (along the lines of those published in the volume "Attack on World Poverty") could come from their current work program, with a lead time of some eighteen months. It was also agreed that the Employment and Rural Development Division could contribute substantially to a smaller type of summary paper if that were decided upon.

7. If the DPS is to be involved in this activity, there is a question as to how their participation should be triggered. This would seem to be a matter for Messrs. Warren Baum and Hollis Chenery.

cc: Messrs. G.F. Darnell, M. Leiserson, Colin Bruce

GFDonaldson:mt
Agriculture & Rural Development Projects in FY75

Agriculture

1. The Monitoring Unit in this department has just completed an assessment of FY75 projects. The results must be interpreted with caution since the Regions have not yet fully responded to the memorandum you sent to Regional Vice Presidents on April 30 regarding the implementation of the new monitoring system. In particular we are anxiously awaiting more complete tabulations on the estimates from country economists with respect to defining the rural target population in each country. It seems that we can expect to have these submissions, and also the Project Briefs for the next two fiscal years, by the middle of July. Meanwhile, we have analyzed the FY75 lending operations on a tentative basis, and I thought you might be interested in the results.

2. The 70 agriculture projects in this fiscal year represent $1857.5 million, almost double the lending in FY74. Total cost of these projects is $4.2 billion, with the Bank Group, therefore, financing an average of 44% of project costs.

3. Based on existing tentative estimates for the appropriate poverty target group in each country, it appears that 38 of the 70 projects may be classified as rural development projects in accordance with the definition used in the rural development policy paper. These 38 projects involve Bank and IDA lending of a total of $980 million, more than double (118% increase) the amount lent for such projects last year. This amount also represents about half of all lending in agriculture this year. We are, therefore, succeeding in maintaining the balance of rural development projects relative to total agricultural lending established in the rural development policy paper for the overall five-year lending program.

4. 2,778,000 families will directly benefit from agriculture projects in FY75, of which about 80% appear to be in the poverty target group. This would indicate a total of about 17 million individual beneficiaries without counting indirect benefits.

5. With respect to food crops, the 70 projects in FY75 are expected to provide an annual increment in production of about 7.1 million tons, representing a production value of slightly more than $1 billion annually at full development.
Total Rural Development

6. In addition to the $980 million lending for rural development in agriculture, we also have the following estimates for rural development lending in other sectors:

- **Education**: $90.6 million
- **Transportation**: $131.0 million
  
  Total: $221.6 million

Total rural development lending this year is therefore $1201.6 million as compared with $473.6 million last year—an increase of 154%.

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LEChristoffersen:jo'd

cc: Messrs. van der Tak
    Yudelman/Darnell
    Gulhati/Leiserson
June 27, 1975

Colin Bruce

Farm Mechanization Issues Paper - Discussion Draft

1. The completed first draft of the Farm Mechanization Issues Paper is forwarded herewith for your information and comments. We would be grateful if written comments or a marked up copy could be returned to Graham Donaldson by July 20, 1975.

2. Copies are not being circulated to the Regions at this stage.

3. All constructive inputs and comments will be gratefully received.

CC: M. Leiserson  S.J. Burki
    R. Hofmeister  J. Voorhoeve
    A. Berry  S. Reutlinger
    H. Kaneda  R. Krishna
    S. Bose  A. Ray
    D. Turnham

GFDonaldson:mt
Mr. M. Yudelman, Mr. C. Willoughby

C. N. Walton

June 25, 1975

Project Monitoring – Proposal for the Research Committee

1. I attach a proposal on project monitoring agricultural projects in East Africa which we have agreed in the regional Projects Department and which we propose to submit to the Research Committee for its consideration for funding. Before proceeding further, however, we would welcome any views which your departments may have on the proposal as also the views of others to whom this memorandum is copied.

2. Our recent operational experience in East Africa agriculture has highlighted our concern that project monitoring and evaluation with one or two possible exceptions is either being done inadequately or not at all. In some cases the scope of such work has been too ambitious and in many cases it has not been found possible to find suitable institutions or persons to carry out the work and generally we and our borrowers have lacked expert guidance on how most effectively to undertake this important aspect of the project cycle. Although all our recent projects include provision for monitoring and evaluation, we are aware that this has become something of a ritual with little real substance. With the increasing number of follow-up projects, the lack of solid results from earlier phases presents us with problems and some embarrassment. A recent case of this was the appraisal of Lilongwe III in Malawi for which there were few worthwhile findings from the two earlier phases.

3. The nature of our problem is both operational and research oriented. Operational for the reasons outlined above which, though not unique to East Africa, are heavily concentrated in this region through the large number of rural development projects. There are particular difficulties involved in evaluating the performance of annual crop projects which are often marketed outside formal channels as distinct from tree crops, which usually are. We are thus anxious to obtain early expert advice on methods and systems which could have a direct bearing on project implementation as well as on the design of future projects.

4. At the same time the work involved in such a study will involve some basic research which an operational department is not equipped to carry out. We would expect such a study to indicate a generic treatment of the problems, outlining different levels of, or approaches to monitoring which might apply in a few broad categories. This, of course, could be expected to be of wider interest.
in the Bank but we feel that our needs in this region are particularly pressing and we would hope that we could avoid the delays which are usually inevitable in a Bank-wide study. In view of the support which the Research Committee has earlier given in support of the African Rural Development Study and which highlighted project monitoring and evaluation weaknesses, it seems appropriate to us that research funds might usefully be applied in this follow-up task.

5. The proposal breaks some new ground and we are perhaps more aware of the problems than the complete and precise information and solutions to them which we are seeking: to this extent we recognize that the attachment may need more precise definition in some respects. Specifically I am uncertain whether the need 'to test out simple monitoring systems in a few projects on a pilot basis' (para IV, 1) could be met through this particular proposal. I would also mention that the list mentioned in Annex I is merely a cross section of projects which might be subject to this study. Overall, some 40 agriculture and rural development projects in this region are requiring monitoring advice.

Copies with Attachments: Mr. Christoffersen
                      Mr. Leiserson
                      Mr. Raizzen
                      Mr. Hablutzsel

cc: Mr. Adler
    Mr. Walden
    Mr. Cleave
    Mrs. Lele

CH Walton: fgs
OFFICE MEMORANDUM

TO: Mr. Baum, Vice President, Central Projects
FROM: P. N. Damry, Secretary
SUBJECT: Study on the Bank's Program for Creation of Non-Agricultural Rural Employment

DATE: June 24, 1975

TO:

DATE:

FROM:

SUBJECT:

Mr. Baum, Vice President, Central Projects

June 24, 1975

P. N. Damry, Secretary

Study on the Bank's Program for Creation of Non-Agricultural Rural Employment

1. On June 17, during the Board discussion on the Chambal Command Area Development Project and the Corum-Cankiri Rural Development Project, the subject of the Bank's program of non-agricultural rural employment of the kind the Bank has for agricultural employment was raised by Mr. Green and Dr. Sen. Mr. McNamara stated that the Bank does not yet have any large-scale program for it and this will have to be worked out. He added that an effort would be made to prepare a paper that would bring to this subject the same kind of comprehensive treatment as was given to increasing agricultural productivity through rural development programs. He further stated that this would be put on the Bank's work schedule and he would discuss with Mr. Knapp and you the best way to approach it.

2. Attached, for reference, is an excerpt from the transcript of the meeting.

3. I would appreciate being kept informed of further developments in the matter.

Attachment

cc: Mr. Knapp
MR. GREEN: Mr. Chairman, I think it is interesting in these projects, the Indian one and this one, to see how many people are affected and whose incomes will be lifted by the Bank's work. The $24 million investment in the Chambal Command Area, we are told 93,000 families would nearly double their income and another 12,000 would get additional jobs. One can guess perhaps 400,000 people would be affected. In this Turkish case I think that is the figure mentioned, that 400,000 people. And this stimulates us to mention a point which we have discussed many times among ourselves and with our constituent governments.

As the Bank moves into the rural development projects involving these very large groups of people, would the time be coming when the Bank can take a lead in a wider purview of those rural areas? As the rural incomes increase and productivity goes up, one often strikes an underemployment problem, particularly among women, teenagers, and they drift into the
towns and into other countries, whether there is a possibility of associating, perhaps in a pilot way to start with, with some of these major or perhaps even some of the smaller projects, an assessment of the possibility of greater processing of agricultural products within the area instead of sending them off to the main city centers; assistance with small-scale industries so that employment is created within the region which itself stimulates the next wave of industry, provides a better basis for education, for employment of women as teachers, health workers, and so on, and generally motivate the population in these areas.

It was this thought, not particularly in relation to the Turkish project or the Indian project, but as a general point in relation to this major move of the Bank policy.

MR. McNAMARA: We have done very little on that, Mr. Green, and I think it's a major gap in our programs.

Mr. Baum, do you want to—

MR. BAUM: You were thinking of the gaps and looking at the hole in the doughnut, and I was looking at the fragile shape which it has. While agreeing that I don't think we have done anywhere near as much as we should, we are certainly moving more in this direction. In India I would cite not the command area development projects, which have their own particular
purposes, which is really taking old irrigation works and getting the production benefits out of them, but the milk processing projects which we have had which have reached by now in the three projects several million people and which are essentially involved in bringing processing industry to local areas and giving farmers a new form of employment and income. We do, of course, have a processing element in the Nigerian oil palm projects. We have included in that the processing of the oil palm itself in the project areas. So that while conceding that more can and should be done, one vehicle for doing this we are developing is a regional style project which takes a region and tries to develop a program for it, specifically addressed to such issues as bringing in local industry. It is an element in increasing degree in even purely agricultural style projects.

MR. McNAMARA: I think Mr. Green knows he has emphasized an important point. It cuts two ways. First he points out 400,000 people in this project have directly benefited. This is tremendous, just fantastic. And we really are beginning to deal with large numbers. Now, hopefully, the projects will achieve the benefits we estimate. And that is our number one problem, to make sure we and the country perform in accordance with the objectives.
But assuming for the minute we do, we are on the way to benefiting directly through these rural development projects roughly 100 million people in five years. It is a tremendous increment of assistance and a wholly new approach for the Bank.

But compared to the 100 million that are going to be benefited directly by these agricultural projects, and of whom a small percentage will be, I will call it, processors, I don't think, Warren, that our five-year program would benefit directly, i.e., I will call it, factory type worker, if you want to call it that, 10 million people. So we just haven't begun to address this problem of non-agricultural employment outside of the major urban areas. We haven't addressed it very effectively in the major urban areas either. But certainly in the non-urban areas we haven't addressed it very effectively, Mr. Green. It is very important. And I think that will be one of our next major objectives.

**MR. GREEN:** We will be looking at the five-year perspective within the next days and weeks, and it is a matter of judgment whether this is a matter merely for study at this stage or whether an area could be selected for working up as a pilot effort to see what it takes, what are the links with other institutions, what are the links with agencies which are working on the industrial side. These are really the questions
I am raising.

MR. McNAMARA: Well, it is very much in our mind, and we are trying to approach it through two or three ways. One, by the approach Mr. Baurn mentioned, introducing into the rural development agricultural projects processing activities of the kind you referred to.

Secondly, by greater emphasis on financing of small enterprises by development banks and providing technical assistance in association with that financing. And this we think has tremendous appeal. But we don't yet have any large-scale program for non-agricultural rural employment of the kind we do for agricultural employment. And it is something we are just going to have to work at and find a way to accomplish.

Are there others who wish to speak?

Dr. Sen and then Mr. Browning.

DR. SEN: Mr. Chairman, the point that Mr. Green has raised is very important. And I think most of us would very greatly in it. And I am very glad to hear the response that you gave to Mr. Green.

But to make the response a little more concrete, will it be possible for the staff to prepare a paper on the subject which we could discuss? There are so many related
issues. You have just now mentioned that the lending by
DFC's to small industries, small enterprises, will not tackle
the subject. I raise the subject and the spread, the
approach, while these things are important, could be covered
in the paper.

Secondly, could we have in the course of the next
year some two or three pilot projects of the type that Mr.
Green mentioned, because if these two things are done, then
that will help us to prepare the ground for going ahead on a
bigger scale during the next five years or so.

Thank you.

MR. McNAMARA: Yes, we can definitely have and do
have in the process pilot projects that I think accomplish
Mr. Green's objective. And we will try to prepare a paper.
We will put it on our work schedule and try to prepare it in
fashion that will bring to this subject the same kind of com-
prehensive treatment we did to increasing agriculture produc-
tivity through rural development projects. I will ask the
Secretary to put this on our schedule and Mr. Knapp and Mr.
Baum and I will discuss how best to approach it.

Secretary's Department
June 24, 1975
June 23, 1975

Ms. Martha Jesberg
Intertech Publishing Corporation
1014 Wyandotte Street
Kansas City
Missouri 64105

Dear Ms. Jesberg,

I have investigated the question of land clearing systems employed on Bank financed projects somewhat further since our telephone conversation on June 20. The consensus amongst those who have been closely associated with this type of operation, not surprisingly, is that systems must be tailored to meet the different conditions which may be expected. Relevant conditions include the total area to be cleared, the rate at which clearance is to be accomplished, the availability and experience of contractors and of labor, soil, vegetation and climatic conditions and so on.

Bank financed projects involving land clearing have been/are being executed under a wide range of different conditions and hence using a number of different systems having widely differing costs. Discussion of these activities and particularly of the factors governing the decision as to which clearance system should be used is project specific and has normally been completed before reports recommending investment are finalised. Hence the sections covering land clearing are almost invariably even briefer summaries than I suspected when we spoke. For these reasons they require to be amplified for full comprehension.

In view of the above, and the danger of providing data without full explanation of the rationale for the systems and costs used, it would seem far preferable for you to meet with some of our staff who have experience with land clearing on Bank financed projects. They include people who have worked on investments ranging from Indonesia, Malaysia, Nepal, through Sudan, Ivory Coast, Senegal and Cameroon. Those I have talked with would be happy to provide you with information for your proposed paper. If you would let me know when you might come through Washington D.C., I shall be happy to arrange a schedule of interviews.

Yours sincerely,

Donald C. Pickering
Agriculture and Rural Development Department
June 19, 1975

Dr. James R. Anderson  
Chief Geographer  
U.S. Geological Survey  
Mail Stop 115  
Reston, Va. 22092

Dear Dr. Anderson:

Many thanks for the copy of a "review copy of Using Remote Sensor Data for Land Use Mapping and Inventory: A User Guide." Undoubtedly it will be of use to our operations as a guide to what might be carried out in the LDC countries of Bank interest. However, the whole ERTS/LANDSAT system has much greater potential in the overseas area than in the U.S. which has many other sources of data at hand than do these areas, yet the study does not take them into consideration. I recognize that your office is working for the U.S. Department of Interior with prime interests in U.S. activities but I do think that your priorities have not been given proper evaluation.

The future of the LANDSAT system will be heavily dependent on foreign participation in the future. They will be investing major sums of money to set up receiving stations and processing labs. They have less contact with commercial firms and U.S. agencies working in this field. They need a "User Guide" for more than does the U.S. community working in this field. Could we get a similar study done under your office of Foreign Geology?

There have been discussions held within the Bank and with the UN and FAO to put out such a document but the USGS staff certainly has the best expertise to do such a job. Could AID not support such an effort? The Bank is much more limited in the kind of funding that can be invested in the U.S. by U.S. firms than is the U.S. Government.

Sincerely yours,

Wolfram U. Drewes  
Resource Planner  
Agriculture and Rural Development  
Department
Robert Picciotto, Assistant Director
Projects, South Asia

June 16, 1975

Ted J. Davis, Head of the Monitoring Unit, Agriculture and Rural Development Projects Department
Monitoring System for Agriculture and Rural Development

The attached memorandum of April 30, 1975 from Mr. Baum to regional Vice Presidents, describes procedures for a modified PIB system for monitoring Agriculture and Rural Development projects. The system uses a new format to be submitted regularly to the Monitoring Unit in the Agriculture and Rural Development Department of CPS.

The memorandum requests action from both the country economists and from the projects divisions in the regions. The economists are asked to provide the "upper level income of the target groups" for their respective countries. The projects staff are asked to use the new Project Brief format in their submission as described in Attachment 1 to the Baum memorandum. The Baum memorandum requested compliance by May 30 and the Monitoring Unit received Project Briefs from some of the regions at that time.

Realizing the work burden on many project staff during the end of this fiscal year, makes it necessary to change the deadline for the remaining regions to June 30. On or before that date please forward completed Project Briefs to the Monitoring Unit (Ted Davis - D842). The Unit will be glad to render any assistance or clarification needed.

TJDavis/cr

cc: Messrs. Baum
van der Tak
Yudelman
Christoffersen
D.W.M. Haynes, Assistant Director
Projects, EMENA

June 16, 1975

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TJDavis/cr

cc: Messrs. Baum
   van der Tak
   Yudelman
   Christoffersen
Mr. F. Kada, Agric. & Rural Development  
June 4, 1975

Peter Pollak, EPDCE

Market Outlook for Skipjack and Yellowfin Tuna

Attached is a brief note on the market outlook for tuna. I would appreciate your comments.

Attachment

cc: Messrs. S. Singh (o/r), K. Takeuchi, J. Nusbaumer
MARKET OUTLOOK FOR TUNA

1. Tunas are harvested in all major tropical and temperate oceans in a region that extends from about 35°N to 30°S. Although tunas migrate hundreds of miles in the course of their life cycle, most of the tuna fishing takes place in the Eastern Pacific, the Eastern Atlantic and the Indian Ocean. The fact that tunas, unlike any other major marine source (except perhaps whales), are found mainly in international waters poses difficult problems in the management of this important marine source.

2. Among the many species of tuna, two are of major importance for commercial fishing: yellowfin and skipjack. The latter is smaller and in terms of world catch second after yellowfin.

3. Tuna are marketed in three major categories: white meat tuna (albacore); light meat tuna (mainly yellowfin, skipjack, bluefin and blackeye); and tuna-like species (bonito and mackerel). Among the different white or light meat tuna species, albacore is the most expensive and skipjack the cheapest. In recent years the difference between the prices of the two species has ranged between $150 and $200 per ton, largely due to the higher proportion of waste in processing small fish. However, prices of the different tuna species consumed in the United States have moved parallel, which would indicate that the different varieties are close substitutes. In developed countries most tuna is sold in canned form. Note that only the first two groups qualify for canning in the United States and European markets. (Tuna-like species cannot be marketed as "tuna" in the United States.) Japan and Taiwan have the highest per capita consumption of tuna - approximately 8 pounds - while in the United States and Spain, the other two large consumers, it averages 4
World tuna catch expanded fairly rapidly in the postwar period, growing at a rate exceeding 5 percent per annum during 1955-69. The average annual total catch increased from 930,000 tons in 1955-59 to 1,224,000 tons in 1960-64 and 1,560,000 tons in 1965-69. Tuna catch during 1969-70 averaged 1,680,000 tons, of which about one million tons consisted of the high value species (i.e. light or white meat). Skipjack catch more or less sustained the same growth rate and retained its share at around 20 percent of the total catch throughout 1951-70. Japan and the United States maintain by far the largest fishing fleet for tuna, including skipjack (Japan accounts for about 60 percent of the total world catch). Other major suppliers include Taiwan, Ghana and Peru.

Several marine biologists have argued that, apart from skipjack, all other tuna species are being either fully or over-exploited at present. At least one population, that of the Eastern Pacific yellowfin, has apparently reached the limit of its productivity. Research undertaken by the Bureau of Commercial Fisheries Tuna Study Group, USDI, found that no increase in catch can be expected for yellowfin, albacore, bluefin and blackeye, but a substantial increase in the skipjack catch is expected.

Apart from the possible decline in the supply of tuna because of the near-full exploitation of this marine resource, canning factories have shifted their interest to skipjack which, blended with yellowfin, reduces the overall

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2/ The weight measures used in the different tables are not exactly comparable because of different definitions used.

mercury content of the packs. (The incidence of mercury in tuna was found to be positively correlated to fish size and therefore higher in the large yellowfin.) Japan and Peru are the leading skipjack exporters; they export primarily to the United States and the European Economic Community.

7. Prices for skipjack are presented in Table 1. The price series shows that U.S. prices were particularly high in 1951-55 and again in 1966-70, when they averaged $309 and $292 per metric ton, respectively. But between these two time periods prices fluctuated between $215 and $265 per metric ton. In recent years skipjack prices have continued to increase and reached a peak of $600 per metric ton in 1974.

Market Outlook

8. It has been mentioned above that consumption of tuna has expanded steadily in the past. Assuming a continued growth in per capita incomes in major consuming countries, the demand for tuna is expected to increase in the decade ahead. Various attempts have been made by the FAO and the Bureau of Commercial Fisheries, USDI, to estimate the sensitivity of demand to changes in price and income in different markets, but the data have generally yielded widely differing and statistically weak results. In the case of the United States, statistical analyses have shown a highly significant response of demand to price and income changes. The results of these analyses indicate that the income elasticity of U.S. demand is greater than unity, while price elasticity, in absolute terms, is less than unity. (The two elasticities are estimated to be 1.17 and -0.86 respectively.\textsuperscript{4/}) Similar statistical analyses for other

\textsuperscript{4/} Frederick W. Bell et al, "The Future of World Fishery Resources: Forecasts of demand, supply and prices to the year 2000 with a discussion of implications for public policy," National Marine Fishery Service, Division of Economic Research, USDI, Table 4.2, pp. 82-89.
major markets did not produce any significant results. To forecast demand, some "heroic" assumptions have to be made. Assuming no change in prices for tuna and an average income elasticity on unity, tuna consumption is expected to grow at the same rate as per capita incomes grow in different world markets. Recent reports by the International Economy Division indicate that this growth rate will average about 5 percent in the long run, and the world demand for tuna will have reached the level of 5 million tons by 1990. Since the maximum yield for all tuna fisheries is estimated at 2.6 million tons, prices would rise dramatically as declining catches make it increasingly difficult to meet demand.

9. On the supply side, available information suggests that most tuna species are nearly fully exploited; hence, increased fishing efforts on yellowfin, albacore and blackeye tuna are likely to result in small, if any, increases in catches. The expansion of skipjack supplies is therefore expected to play an increasingly important role in meeting the expanding demand in the future. Resource estimates point to very large potential stocks particularly in the mid-ocean areas of the Pacific Ocean. But the technology for harvesting these mid-ocean stocks is not yet developed, and when it becomes available it is likely to be more costly than traditional harvesting techniques. At present various projects to develop coastal and island populations of skipjack in the Western Pacific, South Western Pacific and Indian Ocean are under way. As with other marine resources, as these stocks reach full exploitation the catch per effort will decrease and costs of catch per ton will increase. It is difficult to attach a time dimension to these forecasts since the size of the skipjack stock, particularly in the Indian Ocean, is not known; available estimates indicate a potential catch of about 500,000 tons per annum. Hence, most fishable stocks of skipjack will be fully exploited by 1980-85.
Given the limitations on the existing tuna harvest, problems of management and largely unknown prospects of fishing in the Central Pacific, the world price of tuna is expected to show a rising trend in the future. On this basis the price (in current US dollars) for skipjack tuna is expected to reach US$550 per metric ton (ex-vessel California) and US$830 by 1985. The corresponding prices for yellowfin tuna are US$600 and US$890 respectively.
### Table 1
TUNA-SKIPJACK: PRICE AND UNIT VALUE, 1951-1974

(US dollars per metric ton)

<table>
<thead>
<tr>
<th>Year</th>
<th>Ex-vessel Price 1/</th>
<th>Index 1973=100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>320</td>
<td>64.2</td>
</tr>
<tr>
<td>1952</td>
<td>287</td>
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</tr>
<tr>
<td>1953</td>
<td>309</td>
<td>61.9</td>
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<td>1954</td>
<td>335</td>
<td>67.3</td>
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<td>295</td>
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<td>1957</td>
<td>243</td>
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<tr>
<td>1958</td>
<td>259</td>
<td>51.3</td>
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<td>1960</td>
<td>231</td>
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<td>1961</td>
<td>236</td>
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<td>1962</td>
<td>225</td>
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<td>1963</td>
<td>240</td>
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</tr>
<tr>
<td>1964</td>
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<td>67.7</td>
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</tr>
<tr>
<td>1971</td>
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</tr>
<tr>
<td>1972</td>
<td>600</td>
<td>120.4</td>
</tr>
</tbody>
</table>

1/ Premium grade

Following are a few observations on your memo dated April 23 and the attached issues paper outline and background note.

1. I don't believe I will be able to contribute any useful paragraphs to the issues paper, unless in the general question of the relation between mechanization and farm size. William Cline and I are working on a cross country comparison of the relationship between farm size and factor productivity, and will be trying to take account of the mechanization variable where possible. Unfortunately, I don't know whether we will have anything interesting to say by the time you reach the draft stage. I doubt we would have anything for three or four months. I would be quite happy to be of any assistance I could, however, on work on the issues paper since it is an issue of great interest to me.

2. I might mention, in case you haven't been able to see it, the study by Thirsk on mechanization in Colombia. This is a Yale Ph.D. thesis of 1972 and from some methodological points of view the most complete attack on the problem undertaken at least up to that point of time. Thirsk concluded that the mechanization in Colombian agriculture (subsidized by low interest rates as in most cases) had worsened income distribution and lowered national income in Colombia. Needless to say, there were a number of arbitrary assumptions feeding into his calculations, and they must therefore be taken with a grain of salt. (Since I was on the thesis committee, I am partially to blame for the remaining weaknesses of the thesis) A major methodological problem in the thesis was the inability to disaggregate sufficiently to catch some of the beneficial impacts of mechanization, especially switching land previously used for livestock to commercial crops. I think if this had been adequately calculated it might reverse the conclusion that national income was lowered. It is another example of the immense complexity issue.

3. As a nicely graphic way to highlight the process of beneficial mechanization, I would suggest some detailed reference to the Japanese experience. From what I have read on it, the ingredients to a socially desirable timing of the mechanization and an appropriate type of mechanization (indigenous type of small machines, etc.) one contributing factor was the post-war land reform which meant that there was not a sizable landless population nor much inequality in amount of land available. The potential dangers of inappropriate mechanization constitute a powerful argument for land reform, it seems to me. Perhaps Japan can be compared with a particularly suspect case; based on Mr. Donaldson's recent draft, it looks to me as if Pakistan would be a leading candidate for that designation.
The draft outline looks quite complete, and I wonder if its completeness may not detract from the highlighting which will be necessary for some of the really tricky issues. But that is something on which one can't judge at this point anyway.

cc: Messrs. M. Leiserson  
    R. Hofmeister  
    S. Bose
Bank Lending Program for Agriculture

1. As you requested in our discussion yesterday, I have spoken to Mr. Charles Goor of the Financial Analysis Division, Programming and Budgeting Department, about the availability of data by sector in the Bank's lending program. Mr. Goor manages the system which keeps track of these data, and he confirmed my understanding that such data are indeed available and in the detail which you will need. As you are aware, this information is quite sensitive and is kept under wraps. I think that a request for data should be in the form of a note directly from yourself to John Adler, Director of P & B.

2. The P & B Lending System is currently in transition, moving from the old computer to a new design on the new computer. Accessing the data may, therefore, be rather complicated and may require a good deal of work in P & B at a time when other demands on staff are considerable. In view of this, your request should be fairly specific. In particular, these are three aspects which need to be considered specifically:

   a. **Sector detail.** Below the first level of classification of lending program projections (e.g. agriculture, transportation, etc.) there is a fair amount of detail, with some sectors divided into as many as ten or more sub-sectors. As you will want to obtain as much information as possible in one retrieval exercise, the request should take into account your requirements not only for data on food and agriculture but also for agricultural inputs, related infrastructure and so forth. It might, in fact, be a good idea to discuss the classification system with Mr. Goor before proceeding.

   b. **Aggregation.** I assume that you will not want individual country detail, but rather will want to aggregate by region, income group or some other criteria (e.g. MSA's, least developed, etc.). Further, the aggregation should probably be consistent with that used for the historical data in the current DAC exercise as well as what information can be anticipated for projected flows of other bilateral and multilateral donors. The level and composition of the aggregation should thus be specified clearly.

   c. **Basis of recording.** The lending program is kept in the first instance on a "gross" basis — gross in the sense that the total is overprogrammed to allow for slippage and the inevitable failure of some projects to materialize. There is, however, also in use a program which is used to convert the gross lending program to a "net" basis, which becomes the basis for financial projections. The latter is probably a
more realistic estimate of the actual level of future Bank lending, but there are no doubt inconsistencies among sectors and regions which should be taken into account before deciding which would be the best approach.

3. If I can be of further help on this matter please let me know.

cc: Mr. Goor

RMcPheeters:ra
TO: Mr. Paul Duane, Agriculture & Rural Development  
DATE: May 8, 1975
FROM: R. Hofmeister, ECDER

SUBJECT: Mechanization Issues Paper

As indicated in my earlier informal note, my own commitment to the public works issues paper precludes any contribution to the mechanization paper. But I would like to share an observation on the revised draft outline.

In the revised draft outline there is no explicit mention of potential divergences between private and social costs and benefits. Of course, these are explicit in the several specific topics listed under "Economic" and "Institutional". It seems to me useful to address these divergences explicitly. First such divergences constitute one of the core issues in mechanization policy. Second, an analytic framework distinguishing private and social costs and benefits seems a useful organizational and expositional tool. Finally, specific policy options can be seen in terms of reducing private and social divergences, or of minimizing the effects of irreducible divergences.

cc: Messrs. Donaldson  
    Leiserson  
    Berry  
    Bose

R.Hofmeister:mf
May 8, 1975

Professor C.H. Hanumantha Rao
Institute of Economic Growth
University of Delhi
Delhi 7, INDIA

Dear Professor Hanumantha Rao:

I would like to make reference (favorably!) to your argument that disparities in regional growth rates within the agricultural sector increase the need for agricultural mechanization. I want to call attention to the policy implications: namely, that more balanced regional growth rates help to keep agricultural wages competitive (with machines) and aid rural employment.

Currently, my only source of your argument on this question is "Employment Implications of Green Revolution and Mechanization in Agriculture in Developing Countries: a Case Study of India", a paper contributed to an international conference on Place of Agriculture in the Development of Underdeveloped Countries, Bad Godesberg, Aug/Sept, 1972. Is this still the most effective reference, or is it superseded? For example, would it be better to refer to your book on Agricultural Technology and Employment? I would be very pleased to obtain a copy of the latter, but have not heard yet whether it is finished.

Yours sincerely,

Paul Duane.
Agriculture & Rural Development Department

PDuane:mt
In order to facilitate our discussion on Monday, May 5, 1975, I thought you ought to have on paper the comments of South Asia on your revised draft. These comments should be relatively easy to handle. And I hope you find them helpful and constructive.

Para. 1: in listing the multiple objectives of Bank agriculture lending you may wish to replace "dairy production" by "livestock production" (to take account of meat). You should also mention sugar production and include soya in the food staples listed in footnote 2.

Para. 3: we remain skeptical about your statement that over 80% of lending has gone to large farmers. We also feel that your statement that "less than half of food lending was for small farmers" is misleading. It would have been better to say that "almost half" of food lending was for small farmers.

Para. 5: states that FY 69-73 trends suggest a response by the Bank to the food problem. Yet the projects of FY 69-73 were planned well before the recent food crisis. Similarly the word "bias" suggests premeditation. In fact, country lending programs (of which agriculture lending is only a part) are not planned in this way.

Again in para. 5 you may wish to include "agriculture" between the third and fourth word of the second line of page 4. Furthermore, your statement that the share of foodgrain lending in relation to South Asia agriculture lending did not increase is surprising considering the already high share of foodgrain to total lending (two-thirds) in South Asia. Finally, the statement that foodgrain lending in Latin America and EMENA increased absolutely and relatively is not too meaningful in the absence of an analysis of the adequacy of the baseline (for an interesting argument in favor of more foodgrain lending in Brazil see the recent Report on the Proposed Nutrition Project).

Para. 6: might be expanded to bring out that foodgrain self-sufficiency for South Asia is warranted by the resource potential of that Region as well as by the high cost of reliance on emergency food relief assistance.

Para. 7: some of the numbers are given with spurious accuracy and the reader has some difficulty jumping from the 16% figure of line 5 to the 36% figure of line 9. The last sentence of para. 7 implies that the Bank Group is the only source of assistance whereas the real focus of the paper should be on the total effort especially Government. The conclusion of that paragraph we certainly support. But, the Bank's
contribution to reducing India's deficit which would come through other lending, most importantly fertilizer projects, is ignored. The "Bank's current contribution to the total Indian effort" to reduce the food gap should certainly include such lending.

Para. 8: I am still concerned about the implication that South Asia irrigation projects are deliberately biased against small farmers. In the same paragraph, you point out that 44% of Bank lending for foodgrain in four South Asia deficit countries went to small farmers. And in para. 14 you calculate that the small farmer is likely to contribute about a third of the increment of foodgrain production over the next few years. This would seem to imply that South Asia lending is indeed well poised between production and social objectives and that any further emphasis on the small farmer may well involve the trade-off that we are all seeking to avoid.

Para. 9: the only beneficiaries of the Green Revolution are not only large and middle farmers but also food consumers.

Para. 10: the sixth line suggests deliberate withholding of agriculture inputs from small farmers. This might be reworded. In the same paragraph the basis for your 20 million tons figure should be given, and the bibliography of studies attached. We don't agree that "the 8 million large and middle sized farmers appear to have reached their production frontier with available technology." Their yields are much too low compared with those in other countries. Surely they can benefit from better water management, higher fertilizer application and above all from better seed. There is much evidence that deteriorating quality of seed and the failure to develop new strains account for much of the slowing down of the Green Revolution. Available technology just isn't being properly exploited, and that is true for the large farmers too. This paper places too much reliance on production gains from the small farmer and not enough on the large who will still account for most of the hoped for increase.

Para. 11: talks about justifying the inclusion of small farmers in Bank projects. This is not at issue. The same paragraph mixes up the objective of increased productivity with the objective of reducing production fluctuations. It is true that small farmers are difficult to reach with relief supplies. But failure to distribute cheap food in rural areas also reflects a political choice (see Wolf Ladejinsky's recent writings). Finally, it is the landless worker which is the most destitute and vulnerable to famine—not the small farmer.

Para. 14: the reference to the Regional foodgrains projections is welcome. However, the considerable effort implied in the realization of these projections was emphasized in the Regional memoranda and should not be forgotten. In the same paragraph the 36 million ton target for the middle and large farmers seems to conflict with the statement of line 3 of para. 10. The Green Revolution technology should be extended to the small farmers but it can be revived and intensified for the larger ones as well.
Para. 15: the last two sentences imply premeditation and a Bank role in foodgrains which is all inclusive.

Para. 16: As mentioned above I do not believe that the paper justifies raising the issue of the need to be more small farmer oriented in South Asia.

Many of the above comments come from Mr. Weiner and Mr. van der Meer. Mr. Weiner made two additional comments given below:

(a) he finds that the capital output ratio estimates are probably the least persuasive reason for supporting additional investment in foodgrains;

(b) he feels that a major conclusion is missing, i.e. a discussion of the Bank role in sector work and foodgrain programming support which should include but not be limited to what we do by way of projects. If this point is emphasized in the paper the policy issues of para. 16 should obviously include but also go beyond operations programming and related staffing issues.

The sources of all Tables should be given (particularly of Tables 1 and 2). Table 3, page 8: how could the 1972 kg/caput figure for the ten countries be 151 when the two components are both higher, 160 and 153. One item which might be footnoted in Appendix Table 4 is that the estimate of production increases attributed to the seeds project only refers to seed growers, i.e. excludes the effect on yields by seed users even though this is the basic justification of the project.

cc: Messrs. Weiner, van der Meer, Yudelman, Jeffries, Parsons, Pranich, Spall
Comments on Burki's Foodgrain Paper

1. Mr. Picciotto has already spent a lot of time on this draft so I doubt that there are any points we can make here that he hasn't already, with varying degrees of success on their adoption. Para 3: The main conclusion that foodgrains account for 28% of the past lending for agriculture FY69-73 is highlighted in the text but perhaps as significant is the much higher percentage of foodgrain to total, 65.6%, for South Asia, the main food deficit area of the developing world. (Annex Table 1).

2. Para 4 para 5. "Lending for foodgrain in South Asia amounted to about two-thirds of the Bank lending for this region in FY69-73" should be qualified, two-thirds of Bank lending for agriculture for this region.

3. I believe you have already pointed out that Table IV, Impact of Food Grain Production in India, and Table V derived from it seem odd. Estimates of the food component of projects and capital output ratios of very similar projects differ widely. This does not probably affect the argument of paragraph 7 and the conclusion of that paragraph which we should certainly support. But, the Bank's contribution to reducing India's deficit which would come through other lending, most importantly fertilizer projects, is ignored. The "Bank's current contribution to the total Indian effort" to reduce the food gap should certainly include such lending.

4. Paragraph 10: I don't agree that "the eight million large and middle sized farmers appear to have reached their production frontier with available technology." Their yields are much too low compared with those in other countries. Surely they can benefit from better water management, higher fertilizer application and above all from better seed. There is much evidence that deteriorating quality of seed and the failure to develop new strains account for much of the slowing down of the green revolution. Available technology just isn't being properly exploited, and that is true for the large farmers as well as for the smaller, though certainly more so for the latter. This paper places too much reliance on production gains from the small farmer and not enough on the large who will still account for most of the hoped for increase. Table 3, page 8: How could the 1972 kg/caput figure for the 10 countries be 151 when the two components are both higher, 160 and 153?

5. Para 14. As above, the target is feasible if the Green Revolution technology could be extended to the small farmers and if it can be revived and intensified for the larger ones as well.

6. I suppose it goes beyond the scope of this paper but I think the idea of shifting emphases in agricultural lending to the deficit areas depends also
on the unstated premise that the deficit countries of South Asia will not be able to afford to import grain to make up the gap from other regions which might be surplus. Perhaps this point need not be added but the argument may come up from LAC that it should get the support to feed South Asia.
April 30, 1975

Mr. Philip H. Coombs
International Council for
Educational Development
P.O. Box 217
Essex, Connecticut 06426

Dear Mr. Coombs:

Although belatedly, I would like to come back on our discussion in January and your letter of February 3, 1975, on possible cooperation in education efforts related to rural development.

Mr. Thoolen has just returned from a long mission, including a visit to Tanzania, where he reviewed, among others, education and research aspects of rural development. Unfortunately, all key officials in the Ministry of Education were fully occupied with the challenge of implementing the new target of universal primary education in 1976. For the time being, there seems to be little interest in the type of studies we discussed. However, I intend to keep this matter in mind in case a more appropriate occasion opens up in the future.

I hope we will have further opportunities to exchange views in this field.

Sincerely yours,

Leif E. Christoffersen
Chief
Rural Development Division

cc: Messrs. Ballantine/Hultin/Martinson

E: Thoolen:rw
TO: Regional Vice Presidents

FROM: Warren C. Baum

DATE: April 30, 1975

SUBJECT: Monitoring System for Proposed Projects in Agriculture and Rural Development

1. My memorandum of July 24, 1974 (Implementation of the Nairobi Speech: A Control/Monitoring System for Rural Development Work), initiated a system for monitoring our agricultural and rural development projects. Basically, that initiative was in response to a need for better information about projects in the pipeline, particularly with reference to the expected impact of these projects on the "target group" of rural poor. The recently approved Policy Paper for Rural Development sets up a lending target which calls for 50% of our agricultural and rural development lending to be directed towards the rural poor over the next five years. It is important to monitor our progress towards that objective on a comprehensive basis. A Monitoring Unit has recently been established in the Rural Development Division of the Agriculture and Rural Development Department to assist in the further development and operation of an effective monitoring system of projects at various stages of preparation.

2. In the light of the experience gained in the first round of this monitoring exercise and with the valuable assistance of many staff members in the Regions, including chief economists, senior economists and assistant project directors for agriculture and rural development, the Monitoring Unit has developed a new and more condensed format for Project Briefs.

3. The new system should be implemented by May 30th and from thereon we shall only ask regional staff for routine updating in the course of the project cycle and semi-annual checking for completeness. This system is described in Attachment 1, which includes "Instructions for Implementing a Monitoring for Agriculture and Rural Development Projects," the format for the proposed Project Brief, and notes relating to the completion of the various sub-items.

4. The Project Brief format consists of two parts: Part A indicates the size and timing of the project/loan and focuses on the major objectives of the project, stage of preparation, and further preparatory work required and key problems involved. Part B focuses on the collection of information about key project features such as organization, components, beneficiaries, and economic and social benefits. Part A may be modified at a later stage - after appropriate consultation with the staff and management involved - to reflect the results of work currently being carried out jointly by PAS (Mr. Carmignani) and Regional units and CPS Sector Departments on a more general proposal to improve the planning of project generation work, to strengthen the linkages between sector and project work, to sharpen Bank focus on project design and preparation and to specify more clearly the project content of operations programs.
5. Based on our experience in the first round, we have limited this next phase of the monitoring exercise to projects due for appraisal in the relatively near future - specifically, to all agriculture and rural development projects in the operations programs for which a timetable has been initiated. This would limit the scope to the two Fiscal Years 1976 and 1977. Within this more restricted framework, it is understood that not all items of the information requested will be available immediately, especially those included in Part B of the Project Brief.

6. The monitoring system requires definitions of the rural "target groups" for each country. We are asking the country economists to provide the projects divisions with the income level information following the procedures on "target groups" established with the assistance of chief economists and based on the definition of the rural target group provided in the Sector Policy Paper for Rural Development. Attachment 2, "Instructions to Define the Rural Target Population," gives the data requested and the methods by which they are to be obtained. We have asked that country economists provide this information no later than May 23rd for use by the projects divisions and in the Monitoring Unit.

7. We have striven to keep the work involved in implementing this system to a minimum by integrating the Project Brief into the project cycle, by focusing on key questions only, and by limiting the forward time span of projects to be covered. We believe that the Region will gain a useful tool in their efforts to improve the effectiveness of project preparation work and to monitor the basic features of our agriculture and rural development operations. The Central Projects staff and, in particular, the Monitoring Unit in the Rural Development Division will help to facilitate this work and assist in any way they can. The analysis of the information will be undertaken by the Monitoring Unit on a quarterly basis, as specified in the policy paper. Their quarterly reports will be available to management at all levels.

DTurnham/HvanderTak:lc

cc: Messrs. McNamara
    Knapp
    Chenery
    Yudelman/Davis
    van der Tak/Carmignani
    Christoffersen
    Leiserson
INSTRUCTIONS FOR IMPLEMENTING A MONITORING SYSTEM
FOR AGRICULTURE AND RURAL DEVELOPMENT PROJECTS

1. The mechanism for the monitoring system is a Project Brief (Attached as Exhibit I). The Project Brief is expected to be completed by the respective Agriculture and Rural Development Projects Divisions for all Agriculture and Rural Development projects for which timetables have been issued up until Board approval. Thus the Project Brief would basically cover lending operations for the next two fiscal years in the Operations Program.

2. The Project Briefs should be updated following the return of all project identification, preparation and appraisal missions and otherwise when there is a significant change in the project status which could give more complete information. It is suggested that a Project Brief form be attached to the TOR of each mission and a completed Project Brief be attached to the Back-to-Office Report or Issues Paper. To facilitate the work of the project division chiefs, it is suggested that the Project Brief be maintained with the division's copy of the timetable. When additional information is received concerning a project, an updated Project Brief will be attached to the latest timetable and a copy forwarded to the Monitoring Unit of the Rural Development Division in CPS.

3. In order to establish definite periodic reporting, a semi-annual review of all Project Briefs by Projects Divisions is requested by April 1 and October 1 of each year. These dates were selected to avoid the heavier work loads attendant on the end of the fiscal and calendar years. At the semi-annual review, Projects Divisions will be asked to resubmit Project Briefs for each Agriculture and Rural Development Project for which a timetable has been prepared. For Projects for which there is no change from latest Project Brief, a list of the projects indicating this, may be submitted.

4. It is anticipated that not all questions can be answered when the Project Brief is initiated and that additional data will be provided from time to time as it becomes available. The purpose of the Project Brief for projects early in the lending program is to indicate the intention behind the project, rather than exact figures. Thus tentative figures are requested in the early stage of the project cycle. As the project comes close to appraisal, the estimates would become more accurate.

5. Specific Instructions for Initiating an On-going Monitoring System.
To initiate the system, project division chiefs are requested to complete a Project Brief for all Agriculture and Rural Development projects in the Operations Program in Fiscal Years 1976 and 1977 for which a timetable has been initiated, and to forward copies of these Project Briefs to the Monitoring Unit of the Rural Development Division by May 30th. Thereafter these Project Briefs would be updated as outlined in Paragraph 2 above. Copies of the Project Brief, Form No. 1028, can be ordered from the Stock Room.
6. Copies of the completed forms should be sent to Mr. Ted Davis, Room No. D812. Any questions about the Project Brief can be directed to Mr. Claes Lindahl, Extension 3598.

7. The Project Briefs require information on the "target groups". Country economists have been requested to work out relevant estimates for each country by May 23 to be used for the May 1975 round of the Monitoring System.
# Project Brief

**For Agricultural and Rural Development Projects**

(For explanation of items, see reverse side.)

## Section A

<table>
<thead>
<tr>
<th>Country:</th>
<th>Project No.:</th>
<th>Date of Project Brief:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Total Project Cost: (U. S. $ Mil.)</th>
<th>Bank/IDA Participation: (U. S. $ Mil.)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Planned for Board Presentation:</th>
<th>Project Dept./Div.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY: Month:</td>
<td></td>
</tr>
</tbody>
</table>

1. **Project Prepared By:**

2. **Stage of Preparation:**

3. **Project Origin:**

4. **Brief Description of Major Objectives and Key Components:**

5. **Key Problems in Project Design:**

6. **Project Beneficiaries:** Description of social and economic structure of population which would benefit from project.

7. **Country Poverty Levels:** (Data to be provided with assistance of country economist - see notes of explanation.)
   - A. Total population of country (Mil.): ____________________________
   - B. Proportion living in rural areas: ____________________________
   - C. Average family size in rural areas: ____________________________
   - D. Poverty income level ($) : ____________________________
   - E. Proportion of rural population in Poverty Target Group: ____________________________

8. **Is the intention that the benefits of the project will directly and predominantly accrue to the rural target population?**
   - Yes □
   - No □
Explanation for Specific Questions

Item 1: Indicate if project is being prepared by the Bank (Headquarters or Regional Offices); FAO/CP or other.

Item 2: Stage of Preparation. This item should contain a brief description of actions taken and proposed including, e.g., status of feasibility and/or preparation studies, when available, and possible changes and modifications expected in the design of the project resulting from additional preparatory work; also status of Government/Bank dialogue (agreement or problems).

Item 3: Project Origin. The purpose of this question is to find out how the project was identified and incorporated into the 5-Year Operations Lending Program. Typical answers would be: "Identified by an Economic, a Sector Survey or Project Identification Mission", "Identified by an FAO/IBRD Cooperative Program Mission", "Submitted by the government and preparation assistance provided by the Development Advisory Service of the Resident Mission to Eastern Africa", etc.

Item 4: Brief Description of Major Objectives and Key Components. This question is designed to find out whether the main thrust of the project is to increase food production, raise exports, increase employment, improve the distribution of income and wealth, provide training or technical assistance, assist in institutional building, etc. Where more than one objective is important, some indication of relative importance should be provided. Key components are the intended investments by which these objectives are going to be reached. Give rationale for project in sectoral setting.

Item 5: Key Problems in Project Design. The purpose of this question is to indicate what might be the key policy, technical and organizational issues with respect to, e.g., land reform, cost recovery, subsidies (including interest subsidies), project management and inter-agency coordination, labor vs. capital intensive coordination methods, mechanization. Also questions which may be of general interest to CPS to follow up.

Item 6: Project Beneficiaries. The purpose of this question is to obtain general information in summary form on the type of target group (e.g., subsistence farmers, sharecroppers, landless, nomads, etc.), the income structure of the population which will benefit from the project as well as distribution of income and wealth. Social indicators on the target population when available, are also useful (e.g., nutritional status, employment, health, educational levels).

Item 7: Questions in this category are country specific and not directly related to the project. Data should in principle relate to the same year as the Project Brief. Item 7 D and E will require the assistance of country economists. A separate paper has been prepared to guide them in deriving target group information for their particular country. In general, the poverty income level as defined by the Rural Policy Paper is the highest of relative poverty, defined as - 1/3 of per capita total personal income or absolute poverty, defined as the income necessary to cover minimum needs. It is crucial that information relating to Part D be maintained on a current basis.

Item 8: "Directly and predominantly" means projects with more than half of the benefits directly accruing to the rural poor from increased incomes on small farms, increased employment and incomes from labor and from investments which substantially improve the level of social services to the target population (i.e., education, water supply, health care, etc.).
9. BRIEF DESCRIPTION OF PROJECT ORGANIZATION:

10. PROJECT COMPONENTS AND COST ESTIMATES:

A. Administrative and Institutional Support

B. Agricultural and Other Direct Production
   1. Extension Services and Training
   2. Credit
   3. Physical Inputs (fertilizer, seeds, etc.)
   4. Irrigation
   5. Land Development
   6. Processing/Storage/Markets
   7. Other

C. Other Components
   1. Roads
   2. Water Supply
   3. Electrification
   4. Housing (including Community Centers)
   5. Education
   6. Health
   7. Other

D. Contingencies
   TOTAL

11. INCREMENTAL ANNUAL PRODUCTION ESTIMATES (AT FULL DEVELOPMENT) AFTER ______ YEARS:

<table>
<thead>
<tr>
<th>Item</th>
<th>Volume (specify units)</th>
<th>Value $ Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Food Crops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Non-food Crops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Livestock</td>
<td></td>
<td></td>
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<tr>
<td>4. Fisheries</td>
<td></td>
<td></td>
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<tr>
<td>5. Forestry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. ESTIMATED NUMBER OF BENEFICIARIES IN PROJECT:

A. Number of farm families directly benefiting from project

B. Number of families indirectly benefiting from project
   (excluding families already counted under A)
Item 11: Incremental Annual Output. Use average year of full development if various components have different development periods.

Item 12A: Number of Farm Families Directly Benefiting from Project. "Direct beneficiaries" is to be construed to include only those farm operator families (including single persons) whose incomes will be increased directly and permanently as a result of some part of the project.

Estimating the share of beneficiaries with income at or below the national boundary target-group income will inevitably involve a good deal of judgment as to what the income differentials are among the project beneficiaries. In principle, the procedure would be to take from the project beneficiary group as a whole the highest income receivers, continuing down the scale until the highest income among the residual group falls to the predetermined estimate of boundary income. In the case of farm operators, data may be available on the distribution of farms by size of holding in the project area and from these a rough distribution pattern to apply to the average income figure might be obtained. The main point to bear in mind about these estimates though is the intention to obtain a considered judgment in the light of the available evidence.

Item 12B: Numbers of Families Indirectly Benefiting from Project. Include all on-farm and off-farm hired labor which will receive substantial additional employment as a result of, and after full development of, the project. Exclude persons employed only in the construction phase of any building and construction works. Include other families which will receive significant consumption benefits from the project (e.g., improved water supply), and not otherwise included among farm beneficiaries or beneficiaries from employment.
13. ECONOMIC BENEFITS TO FARM FAMILIES:
   A. Estimated average annual per capita net income (from all sources) to farm families

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>In Target Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Project</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>At Full Development of Project</td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

   B. Indicate (or specify) nearest proportion of incremental income accruing to beneficiaries in the target group:

   - Below 25% □
   - 25 - 50% □
   - 51 - 75% □
   - over 75% □

14. INCREMENTAL EMPLOYMENT IMPACT: (excluding farm family beneficiaries counted under 13)
   A. Number of persons employed full-time (200 days per year or more) __________
   B. Part-time employment (man-days per year) __________________________
   C. Proportion of Incremental income from employment accruing to target population:

   - Less than 25% □
   - 25 - 50% □
   - 51 - 75% □
   - over 75% □

15. SOCIAL BENEFITS:
   Estimated number of farm and non-farm families which will benefit substantially from improved:

<table>
<thead>
<tr>
<th>Estimated Beneficiaries (Number of Families)</th>
<th>% in Target Group</th>
<th>Capital Cost Per Family</th>
</tr>
</thead>
</table>
   1. Water Supply                             |                   |                        |
   2. Health Care                              |                   |                        |
   3. Education (individuals)                  |                   |                        |
   4. Nutrition (individuals)                  |                   |                        |
   5. Family Planning                          |                   |                        |
   6. Housing                                  |                   |                        |
   7. Other                                    |                   |                        |

16. ESTIMATED ECONOMIC RATE OF RETURN OF PROJECT: ________%

   If no estimate can be made, indicate if the economic rate of return likely will be:

   - Less than 10% □
   - 10 - 20% □
   - or over 20% □

17. COMMENTS:
Item 13A: Average Annual Net Income for Farm Families. Income is to be defined before any tax payments but should include estimates for all sources of income – i.e., home consumption of farm production (valued at farm gate prices), off-farm family employment as casual labor, etc. Farm operator income would be net of purchased inputs – e.g., water charges, hired labor, etc.; it would also be net of rental payments for land. Income estimates of this type are already made in the form of model farm budgets for most agricultural projects. (Recall though that average not most common income is required – the latter is often considerably less than the former in situations of generally skewed income distribution.)

Incomes will usually relate to family rather than to per capita income. If information is available locally on family size, then adjustment to a per capita income basis is easily made. In absence of local information, the national average of family size for rural areas (7C) should be used.

Item 15: Social Benefits. Only beneficiaries from directly related project component should be counted under this item. The capital cost for social services should be computed for all beneficiaries on a per capita basis.
1. A crucial activity in the Monitoring System of Agriculture and Rural Development Projects is the definition of the "Rural Target Group". The new Rural Development Policy Paper (Report No. 588, dated December 2, 1974) explains how one may proceed to identify the target group of rural poor:

"...This notion of target groups lies at the root of the definition of rural development as a separable and distinct component of general development strategy. It provides that necessary focus on groups of the rural population in terms of whose well-being policy actions and programs can be designed and evaluated. Target groups are best defined in the context of the individual country. However, a basic standard for identifying target groups would be the income necessary to cover minimum nutritional requirements and essential non-food expenses. In addition, an income equal to or less than one-third the national average would be an appropriate additional criterion to allow for extreme relative poverty in developing countries..." (par.4).

Thus, attention is shifted from a blanket criterion of bottom 40% in all countries, to a mixed criterion, reflecting partly the incidence of absolute poverty and partly the degree of relative inequality.

2. The new standard has been adopted for purposes of the monitoring system and will be used for determining whether projects are deemed to be suitably described as rural development projects - whether of a multi-sectoral or of a single sector type. The boundary income separating the target from the non-target groups would thus be set either by the per capita cost of the minimum needs household budget or by a level of per capita income one-third of the average for the country in question, whichever is higher.

Relative Poverty Income Level

3. To calculate the relative poverty income level requires for each country an estimate of per capita personal income, including valuation of income in kind as well as cash income. In calculating personal income, usually one will have to ignore the minor differences between household income and personal income. The relative poverty criterion would probably dominate the minimum needs criterion in most countries of LAC and EMENA regions, and some countries in East Asia and Pacific and West Africa regions.
Absolute Poverty Level

4. The definition of the absolute poverty income level involves estimation of the cost of the minimum needs food basket and the relationship between this and non-food necessities. This does pose real difficulties, as a number of the comments from regional offices have pointed out. In particular, for large countries where regional differences are important and as between rural and urban areas, it will probably be necessary to work on food baskets of differing composition, to reflect the varying availabilities and food habits of the low income population. In addition, the appropriateness of national or international (e.g. FAO) standards in respect of adequate nutrition will need to be examined carefully to ensure that overly or unreasonably generous standards are not being applied. Finally, some allowance must be included for non-food necessities, such as clothing and shelter. In regard to the latter a reasonable first approximation might be (a) to estimate food requirements and (b) to apply a 30% mark-up to cover non-food necessities.

5. An interesting example of a calculation of a minimum needs budget in the case of Indonesia has been carried out by Mr. Nijhawan, country economist in the East Asia and Pacific region (attached as Annex 1). A note from Mr. McCleary, country economist for Zambia, which very much reflects the spirit in which the exercise should be undertaken - as well as raising a number of pertinent points on the proposal - is also attached.

Updating Poverty Income Levels

6. The boundary income estimates should be updated by country economists on a regular basis - probably every year, or in countries where prices are changing fast even more often. The format to be used for each country to define the rural target population is attached as Exhibit 2.

Initiating the System

7. In order to move ahead with the proposed scheme, it is necessary that first rough cut estimates of the data be available as early as possible. Accordingly, we are requesting that the country economists prepare such estimates by May 23 and to provide the Project Divisions and Mr. Davis, Monitoring Unit (AGPRD, Room No. D-8/2) with a copy of the form Exhibit 2 (together with any necessary explanations and sources) by that date. It is recognized that in many cases to have estimates by that date will involve extremely crude approximations. This cannot be avoided. We would suggest however, subsequent to this, that efforts be made on the next economic mission, or other suitable opportunity, to obtain further insights from specific enquiry at the local nutritional institute or other relevant agency.
### Estimates of Rural Target Population

<table>
<thead>
<tr>
<th></th>
<th>Country:</th>
<th>Date:</th>
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<tbody>
<tr>
<td>2.</td>
<td>Year (for which poverty income level is calculated):</td>
<td>Country Economist:</td>
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<td>3.</td>
<td>Total Population of Country:</td>
</tr>
<tr>
<td>4.</td>
<td>Total Rural Population:</td>
</tr>
<tr>
<td>5.</td>
<td>Average Family Size in Rural Areas:</td>
</tr>
</tbody>
</table>

#### 6. Relative Poverty Level:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Per Capita Total Personal Income (TPI) $</td>
<td></td>
</tr>
<tr>
<td>(b) $1/3 of TPI $</td>
<td></td>
</tr>
</tbody>
</table>

#### 7. Absolute Poverty Level:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>(a) Cost of Minimum Nutritional Needs Per Capita $</td>
<td></td>
</tr>
<tr>
<td>(b) Cost of Minimum Non-nutritional Needs Per Capita $</td>
<td></td>
</tr>
<tr>
<td>(c) Total Cost of Minimum Per Capita Income Requirement (a &amp; b) $</td>
<td></td>
</tr>
</tbody>
</table>

#### 8. Poverty Income Level (highest of 6 and 7 above) $ |

#### 9. Proportion of Rural Population in Poverty Target Group % |

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Households Income is derived by subtracting from National Income the following accounts:

1. Savings of corporations.
2. Direct taxes on corporations.
4. Interest on public debt.

Assistance on these National Accounting matters may be obtained from the Economic and Social Data Division of the Economic Analysis and Projections Department of DPS.
"If reduction of poverty is a specific objective of development planning, it would seem instructive to construct some measure of the extent of poverty, however rough. Poverty is a relative term. It may thus be best defined in the context of existing structure of incomes and consumption. Even then, a clear-cut distinction between the poor and "not poor" would neither seem possible nor essential. What is important is to broadly identify the poor and to have a rough measure of the unfulfilled needs of the community."

"A poverty line may be defined by an income or consumption level which provides at least minimum adequate diet and other necessities. Families having income/consumption below that standard may be termed as poor and those having access to necessities of life as "not poor". A minimum adequate diet may roughly consist of minimum energy and protein requirements recommended by nutrition experts. In case of Southeast Asia, a joint FAO/WHO Expert Group in 1972 recommended an average intake of 2,100 kilo calories and 28 grams of protein. A consumption pattern which provides these minimum requirements and associated standard of housing, water and clothing, etc., could be fixed as a standard which can be applied to programs aimed at alleviating poverty and for necessary productive effort to do so."

"The 1969 Survey of Consumer Expenditure conducted by Biro Pusat Statistik provides some rudimentary data to measure roughly the extent of poverty in Indonesia. The survey covered both rural and urban areas of Indonesia, excluding Aceh, Riau, South Central and Eastern Kalimantan, West Nusa Tenggara, Maluku and Irian Barat, with a 1969 population of 101.5 million, and a per capita GNP of $58 (derived from Regional Incomes Estimates made by a Bank mission in 1973). The survey divided the population in 10 expenditure groups from up to Rp 300 per capita per month to Rp 3,001 and above. It gives an average per capita consumption of $45. (The Consumer Expenditure Survey may have underestimated consumption by about 10 percent.)"

"The Survey divided total consumption expenditures by all groups into food and non-food items. The expenditure group Rp 1,500-2,000 (average per capita of Rp 1,740 or $55, at 1969 exchange rates of Rp 378 = 1 US$) spending 77.5 percent of their total consumption expenditure on food items, had a consumption pattern which in terms of energy and protein intake amounts to approximately 2,000 kilo calories and 28 grams of protein. (Energy and protein equivalents of food consumption were roughly calculated from information contained in Food Composition Table for use in East Asia, prepared by FAO.) Eight percent of total expenditure was spent on housing, fuel, light and water; 6 percent on clothing and footwear, etc.; 4 percent on miscellaneous goods and services, 2 percent on durable and semi-durables and the remaining 3 percent on taxes, festivals and ceremonies, etc. (a total of $12 per capita p.a.)."
"The consumption level of this group (Rp 1,500-2,000 per capita per month or an average of $55 per capita p.a. in 1969 prices) could perhaps be fixed at a standard just above the poverty line. Allowing for about 10 percent under-estimation of consumption, entire population in this expenditure group may be assumed to be above the poverty line. This means that all families with per capita consumption up to Rp 1,500 per month, per capita or $48 per capita p.a. may be termed as "poor". If poverty line is fixed at a per capita consumption level of $48 (approximately $55 considering under-estimation) 68 percent of the population lived below that level. This consumption level is perhaps among the lowest in the world, yet it is higher than that achieved by more than two-thirds of the Indonesia population and therefore could serve as a standard which could be brought within reach of say two-thirds of the poor within a five to ten-year development period."
TO: Mr. Robert Maubouche
FROM: W. A. McCleary
SUBJECT: ZAMBIA - Monitoring/Control System for Rural Development Projects

DATE: March 11, 1975

My impression is that it would be fairly easy to establish figures for relative and absolute poverty criteria for Zambia. Past experience tells me that one always underestimates the degree of difficulty involved until one actually makes the calculations, but even taking account of this tendency, I think that the estimates can be made.

Relative poverty criterion: given the existence of national and personal income figures for Zambia, it will be relatively straightforward to calculate per capita personal income and the one-third of per capita personal income figure. The only problem that exists is that the national income figures probably seriously underestimate income-in-kind but this is a relatively small problem for Zambia compared to other LDC's because of the small size of the agricultural sector.

Absolute poverty criterion: this measure is considerably more difficult to calculate, but given that crude estimates will have to suffice, it can be done. The FAO has recently completed a food study for Zambia which provides detailed information on household characteristics (family size and composition, absolute and proportional expenditures on various types of consumption goods, calorie and protein intake, etc.). From this and other budgetary studies it should be possible to calculate the level of expenditures required to purchase necessities (or at a minimum the food necessities can be costed and the non-food necessities estimated at 30 percent of the food necessities). While such a calculation can be made, it is important to realize that any resulting measure will be very crude; I am not sure that the resources necessary for refinement would be worth it: (1) reasonable men may differ on what is a necessity or what quality level fulfills a minimum standard; (2) should the requirements of adults versus children be distinguished; if so, how?; (3) there may be significant cost of living differences between regions in a country; my impression is that differences of 10-20 percent might be common and higher figures not uncommon; and (4) dietary habits can vary across regions (for various socio-economic reasons) and hence the cost of fulfilling a given calorie-protein intake can vary even if prices were the same in all regions.

In sum, I think that the above exercise is worthwhile and can result in useful guidelines provided that one bears in mind that the estimates are of necessity very crude and should not be used as rigid guidelines. In addition, there have been a few studies of rural household incomes in various provinces (the sample sizes in all were quite small,
I believe which give us some rough ideas of the distribution of income and which would enable to calculate the percentage of households below the relative and absolute poverty lines (there is a problem here that differential household sizes would have to be accounted for but I think this can be handled).

cc: Mr. Hornstein

WAMcCleary:ps
Mr. S.J. Burki, Development Policy Staff

R. Picciotto, South Asia Projects

Bank Lending for Foodgrain Output

April 24, 1975

1. Your draft dated April 21 is essentially the same as the draft we discussed on April 14. The tables you have compiled are interesting but the body of the paper needs considerable work before it can be presented to top management.

Methodology

2. The methodology of the paper is so simple as to require considerable qualifications. For example, the exclusion of pulses and potatoes from your calculations is curious. And by overlooking rural training projects, rural electrification projects, fertilizer projects and other agriculture-related projects from your "universe", you introduce significant distortions in your analyses. Finally, your total neglect of projects designed to promote dairy, inland fisheries or fruit and vegetables production is myopic considering that such projects, if properly designed, can offer excellent avenues to improve small farm productivity and nutrition.

3. Your wholesale reliance on appraisal reports may have been misplaced since these are often out-of-date. Relative price variations have led to cropping system changes. Thus, with food prices up, relatively more foodgrains are being grown in irrigated areas financed by Bank credits. Furthermore, some of the projects have not been carried out as originally envisaged. An extreme case is that of the Agro-Aviation Project, which was cancelled. And there have been major reallocations of funds in India Agriculture Credits from mechanization to minor irrigation. Finally, you should know that some appraisal farm budgets were designed to illustrate profitability tests in extreme cases rather than for average conditions.

4. As a result, some of the figures you come up with seem funny. I am puzzled to see the Haryana Credit rated as "52% foodgrains" while the neighboring Punjab Credit rates as "89% foodgrains". This being said, I would not quarrel with your overall finding that 60-70% of South Asia agriculture lending is foodgrain oriented.

Objectives of Bank Group Agriculture Operations

5. I cannot find in the paper any discussion of the link between Bank lending and overall country agriculture performance—a critical link given the relatively small proportion of Bank contribution to worldwide agriculture investment expenditures. Nor do you deal with the issue of what constitutes a "right" mix between foodgrain and non-foodgrain lending. Jute cultivation is twice as labor intensive as paddy. Should it be neglected,
say, in Bangladesh? Certain regions (e.g. in Sri Lanka) have a comparative advantage in tree crop production. Should the trees be uprooted? Remote areas of Himachal Pradesh are not suitable for intensive foodgrains production. Should the Bank turn its back on an apple processing project in that region, particularly if it is designed so as to provide special linkages to smallholders? Finally, what priority should be accorded to export-oriented agriculture and agro-industries projects?

6. Obsessive concern with a single and necessarily crude indicator has led you to view random events (such as the composition of a Regional lending program in a single fiscal year) as a significant index of policy. Speaking for South Asia, I wish you had taken the time to talk to Regional staff aware of the new directions of our agriculture and rural development lending. Had you done so, you would have found that a major focus of the South Asia operations program in agriculture over the next 2-3 years is expected to be in Eastern India where the farms are very small and where we are proposing to lend to support a major expansion in foodgrains output (see attached draft TORs).

Food and Rural Poverty

7. Your estimates regarding the beneficiaries of Bank Group agriculture projects in South Asia are simply wrong. I cannot agree that small farmers are being bypassed by our projects—even less that this is being done as a matter of deliberate policy. Have you read the West Bengal Agriculture Development Project which was approved by the Board the day before yesterday? Are you aware that the Agriculture Credit Policy Paper (Annex Table 6) estimates that 51.5% by value and 73.5% by numbers of Bank Group assisted Indian agriculture credit loans went to farmers cultivating less than 5 ha? Have you reviewed the recent ARC Credit Project, the Dairy Projects in Rajasthan, Madhya Pradesh and Karnataka or the two Command Area Development Projects in Rajasthan?

8. I would be curious to know the source of your Table 1 (page 6), since I have seen considerable research evidence showing that yields on small Indian farms are higher than on large farms. This finding was reported in the Rural Development Policy Paper. How do you square this with the misleadingly simple strategy you outline in paras. 9 and 10?

Food Production Planning

9. I think you will agree that the overall "meaningful" targets you propose for food deficit countries are little more than arbitrary numbers. More thoughtful work on the subject is already available to Mr. McNamara for India, Pakistan, Bangladesh and Sri Lanka. Before rushing to print, you should have studied these tables and talked to the people concerned with the subject in CPS.
Conclusion

10. In sum, your paper does little to advance knowledge. Nor does it sketch a reasonable program for further investigations. It does not take much research to discover that the Regional allocation of Bank Group resources is presently not geared to the solution of the world's food and rural poverty problems. The Rural Development Policy Paper had already brought this out vividly. Your paper reiterates that the geography of poverty and food scarcity points to South Asia as a desirable area of concentration for Bank Group efforts. This is a welcome reminder. But, the kind of policy paper you are proposing now is unlikely to help surmount the problems involved in achieving such concentration. What is needed is a programming exercise closely linked to Regional operations. Attached is a draft outline for a paper dealing with the South Asia aspects of the problem, which Mr. Weiner wishes to have ready by the end of July, 1975 and which we propose to develop in cooperation with CPS. It will deal with some of the issues that you have identified. But it will do so in the context of an overall Regional strategy, with specific attention to the policy, administrative and budget constraints involved and how they might be overcome. I hope that we can count on your support for this work.

RPicciotto/cta

cc: Messrs. Weiner, van der Meer, Yudelman, E. Stern, Baneth (o/r), Parsons, Spall, Pranich, Jeffries, Bruce, Goering
SOUTH ASIA

REGIONAL OPERATIONS AND THE FOOD AND RURAL POVERTY PROBLEMS

(30 pages)

SUMMARY AND RECOMMENDATIONS

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Recent Trends and Future Prospects
The Regional Food Economy
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  Labor
  Technologies

The Economic and Social Context
  Nutrition
  Population Growth
  Agriculture and Food
  Distribution Problems

III. REGIONAL AGRICULTURE STRATEGIES AND PROGRAMS

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The Key Inputs
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  Seed
  Fertilizer
  Plant Protection

The Key Institutions
  Research
  Extension
  Credit
  Training
  Marketing

Projects and Sector Lending Operations

IV. TOWARDS A NEW OPERATIONS PROGRAM

Adequacy of Past and Proposed Operations Program
Major Gaps and Constraints
A New Agriculture Operations Program
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Sector Work and Special Studies
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Overall Operations Program
Staff and Budgets
Organization
Coordination with Other Agencies (FAO, ADB, Consultative Group)

ANNEXES
Eastern Region Foodgrains Production Planning and Implementation Review

Introduction
1. In the course of the GOI-IBRD discussions on agriculture held in New Delhi in November 1974, under the direction of Sir John Crawford, GOI indicated that concentration of development efforts in the Eastern Region (Uttar Pradesh, Bihar, West Bengal, Orissa and Assam) could lead to increases in foodgrains production of 13 million tons over a five-year period, representing half of the foodgrains production increase projected under the Fifth Plan.
2. The five States making up the Eastern Region share many characteristics (see Annex 1). They are overpopulated. Their farms are small and fragmented. With few exceptions, their rural institutions are weak. Foodgrains yields are usually well below those achieved in northern India. On the other hand, surface water resources are underutilized and much of the Eastern Region is underlain by sweet groundwater which has only begun to be tapped. The Eastern Region's foodgrain potential and its claim for priority attention has been confirmed by the most recent Bank economic report (691-IN, April 7, 1975).

Objectives
3. The main purpose of the Eastern Region Foodgrains Review is to assess the agriculture resources of the Region, to review on-going development plans and to help design action programs and identify projects for quick increases in foodgrains production. The Review would identify short-term and long-term development actions needed (a) to accelerate foodgrains production in the Region; and (b) to increase rural employment and improve the productivity of small farmers.
In particular, the Review would:

(a) identify available agriculture resources, land capability groundwater and surface water resources, and key development constraints (e.g. land tenure, marketing policies, institutional aspects, etc.);

(b) evaluate past agriculture performance, with special reference to planning and implementation capabilities;

(c) assess State agriculture and irrigation plans, paying particular attention to minor irrigation and command area development components and investigating such issues as: (i) the proper balance between foodgrains production and other agriculture development objectives, and (ii) the relative emphasis to be applied to new irrigation, to improved irrigation and rainfed farming—including the scope for diversification from rice to higher yielding coarse grains.

(d) analyze on-going research, extension, training, credit and marketing programs;

(e) project on a realistic basis requirements for major production inputs, particularly seeds, fertilizers and plant protection inputs including arrangements for input marketing and storage;

(f) identify a suitable role for rural works and other special "equity" programs for needed improvements in rural infrastructure and for meeting special social problems—e.g. in tribal areas. This may well involve identification of priority actions in forestry, soil conservation and fisheries.

1/ One of the tools to be used for this analysis would be the satellite imagery and other data to be collected under the Resources Survey Project being formulated with the assistance of the Bank.
5. On the basis of the above assessment, specific program objectives would be set and projects identified to overcome development constraints. In particular, 2-3 years Action Program to promote foodgrain production suitable for Bank Group support would be prepared to further these objectives. This Program would be strictly geared to the execution of priority activities set within realistic expectations of Program execution capabilities at State and local levels. This may well require selection of "concentration areas" or "intensive districts" to facilitate trial and execution of specific programs and projects. The following promising potentials are expected to be fostered under the Action Program:

(a) identification of suitable foodgrains varieties and of associated practices and cropping systems adapted to the various ecological and water control conditions existing in the Region;

(b) preparation and implementation of a specific extension and input distribution program designed to exploit this potential over a two-year period. This program is likely to involve measures designed to improve cultivation practices and to increase cropping intensities by:

(i) adjusting the planting calendar to high-yielding variety requirements,

(ii) distributing high yielding seed varieties,

(iii) setting up of suitable nurseries,

(iv) organizing improved plant protection services,

(v) revamping of the extension system along the lines initiated in Rajasthan and Madhya Pradesh;
promoting groundwater development and lift irrigation schemes by:

(i) strengthening of local capabilities for shallow and deep tubewell drilling and for water resources surveying and legislation,

(ii) increasing the flow of institutional credit for ground water and lift irrigation development,

(iii) encouraging suitable group arrangements for effecting water sharing and utilization,

(iv) accelerating rural electrification through compact development schemes minimizing transmission costs

(v) encouraging on-farm development for more effective water use;

(d) better use of surface irrigation potentials through more expeditious project completions, complementary on-farm development and drainage works and improved supporting services.

In formulating the Action Program, full account would be taken of the findings and recommendations of Mr. Graham Donaldson's foodgrains planning review and of the guidelines developed by other GOI-IBRD Working Parties (e.g. seeds, fertilizer). Proper account would also be taken of on-going and proposed GOI programs (e.g. AIDF, ARRI, etc.) and projects, including the Tarai Seeds Project, the National Seeds Project, the West Bengal Agriculture Development Project, the UP and Bihar and ARC Agriculture Credit Projects and Command Area Development Projects, the Rural Electrification Project and the Resources Evaluation Project.
Organization

7. Because of the size and complexity of the Region, the Review would take place in two Phases. Phase I would cover Orissa and West Bengal. Phase II would cover Uttar Pradesh, Bihar and Assam. In accordance with the consensus reached during the visit of Sir John Crawford in November 1974, a Joint GOI/IBRD Working Party would be established to carry out the investigations related to the Review and to follow up on its recommendations. The composition and work program of the Working Party, as well as State-level support arrangements should be agreed in the course of Sir John Crawford's proposed visit to India during May 1975.

8. Phase I of the Review would begin in July 1975 and be completed in June 1976. Phase II of the Review, which would benefit from Phase I experience, would depend to a greater extent on local inputs from GOI and States and GOI could then adopt this approach for the remaining States as required without outside assistance. It would begin in July 1976 and be completed in December 1977. The Joint Working Party would be responsible for executing the Review with assistance from Bank missions and consultants—under the guidance of Sir John Crawford.

9. It is hoped that the GOI will provide a nucleus team that would undertake basic data collection and analysis prior to the Bank Group mission's visit, and accompany the mission throughout its visits. Subsequently this team would carry the main responsibility for preparing the programs and plans agreed to as a result of the mission's findings, and in monitoring progress of these plans on a continuing basis. In each State this nucleus would be joined by a counterpart team from the State who would work as part of a unified team in the State concerned. In this exercise
the Bank Group's role would be to provide specialized assistance to the nucleus GOI team.

10. The Bank Group will endeavor to provide the following specialists, as required, to guide the Working Party:

- Mr. Wolf Ladejinsky (Bank) - Rural Institutions
- Mr. Peter Naylor (Bank) - Agriculture Economics
- Mr. P. Courbois (Bank) - Credit
- Mr. Fireman (Bank) - Soils
- Mr. Allison (Bank) - Groundwater
- Messrs. C. Bruce and W. Drewes (Bank) - Resource Evaluation
- Mr. D. Campbell (FAO/IBRD) - Irrigation
- Mr. D. Benor (Bank Consultant) - Extension
- Mr. R. Chandler (Bank Consultant) - Research
- Mr. Norden (Bank Consultant) - Seeds
- Mr. Kahnert (Bank Consultant) - Fertilizer

In addition, the Bank assisted by the FAO/IBRD Cooperative Programme would send periodic missions to India to assist in the Review, including preparation of the Action Program for possible Bank Group support.

**Phase I**

(a) September/October 1975 (Orissa and Reconnaissance of West Bengal)

- Senior Agriculture Economist
- General Economist
- Farming Systems Agronomist
- Irrigation Engineer
- Rural Development Specialist

(b) March/April 1976 (West Bengal and Reconnaissance of Bihar) (to be determined)

**Phase II**

(a) September/October 1976 (Bihar and Reconnaissance of Uttar Pradesh) (to be determined)

(b) March/April 1976 (Uttar Pradesh and Reconnaissance of Assam) (to be determined)

(c) September/October 1977 (Assam) (to be determined)
INDIA - EASTERN REGION FOODGRAINS PRODUCTION AND IMPLEMENTATION REVIEW

BASIC DATA 1/

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1/ Source: Fertilizer Statistics 1972-73
The Fertilizer Association of India, New Delhi (Dec. 1973)
## Crop Production (1973)

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<th>Production ('000 tons)</th>
<th>Area ('000 ha.)</th>
<th>Production ('000 tons)</th>
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<td>WEST BENGAL</td>
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<td>45</td>
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<td><strong>21,105</strong></td>
<td><strong>2,443</strong></td>
<td><strong>1,082</strong></td>
<td><strong>966</strong></td>
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<td><strong>11,769</strong></td>
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<td>49</td>
<td>43</td>
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<td>8</td>
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<td>Wheat Area ('000 ha.)</td>
<td>Wheat Production ('000 tons)</td>
<td>H.Y.V.P. Statewise Coverage ('000 ha.)</td>
<td>Fertilizer Prod. Capacity (tons)</td>
<td>Fertilizer Consumption (tons)</td>
<td>No. of Villages Electrified</td>
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<td><strong>Subtotal as % of all India</strong></td>
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OFFICE MEMORANDUM

TO: Messrs. Donaldson, Downing, Peprah and Weiss  
DATE: April 23, 1975

FROM: Paul Duane

SUBJECT: Revised Outline of Mechanization Issues Paper

1. Attached is a further revised outline of the above paper consisting of a brief table of contents, a more detailed table of contents and a background note. The changes that have been introduced to the previous table of contents seek to make the paper more expository at its beginning, allowing an early statement of general policy prescriptions, a comparison between these and what is done at present, and hence a more natural identification of the issues. I am sure we will find further weaknesses in this outline, but it looks good enough now to work with. The deadline for delivery of a draft for staff level review is May 31, 1975.

2. Currently, the staff committed to preparing this paper are as follows: Messrs. Donaldson, Downing, Duane and Peprah. From our last meeting, it appeared that Messrs. Jack Baranson and Doug Hellinger might be able to contribute also towards the following pieces, with the agreement of Mr. Weiss:

   (1) Transfer of machinery technology from developed countries (Baranson)
   (2) Appropriate machinery technology (Baranson)
   (3) Scope for appropriate motorized technology (Baranson)
   (4) Impact of mechanization on employment (Hellinger).

3. I am sending copies of this material to the Assistant Directors of Agriculture for information and/or comment. Mr. Peprah is attempting to describe past Bank policy from analysing selected appraisal reports. He will need to supplement this source of information, however, by interviewing selected staff in the Regions; this will not take up much of the Regions' time, and the attached material should explain why some exposure to views in the Regions would be desirable.

4. It was suggested at the last meeting that other staff should also be invited to contribute to the Paper; for example, that Mr. H.T. Chang might be interested in writing a piece on animal-drawn equipment. Please let me know who else might be available.

cc: Messrs. Baranson, Bruce, Hellinger, Pak, Sutherland and Yudelman

Assistant Directors of Agriculture: Messrs. Blaxall, Haynes, Hendry, Picciotto, Pollan, Rowe and Vergin

P: Duane: at
AGRICULTURAL MECHANIZATION ISSUES PAPER

(Outline)

SUMMARY AND RECOMMENDATIONS

1. PROMISE AND PROBLEMS OF MECHANIZATION
   Role in Economic and Social Development
   Role of Power, Processes and Precision in Farming Systems
   The Record of Past Lending
   Main Issues

2. FACTORS AFFECTING MECHANIZATION AND EQUIPMENT DESIGN
   Contributing Factors
   Some Theories of Mechanization
   Impact of Mechanization

3. FUTURE STRATEGIES FOR BANK LENDING
   Role of Developed Country Equipment and Designs
   Promoting Local Machinery Manufacture
   Related Policies
AGRICULTURAL MECHANIZATION ISSUES PAPER

(Outline)

SUMMARY AND RECOMMENDATIONS

1. PROMISE AND PROBLEMS OF MECHANIZATION

Role of Machines in Economic and Social Development
Interaction between Machines, Technology and Income Distribution
Mechanization Investment Levels in Developing Countries

Role of Power, Processes and Precision in Farming Systems
Land Development
Land Preparation
Secondary Cultivation
Plant Protection
Irrigation Pumping, Drilling, Sprinkler Systems
Harvesting and Materials Handling
Transport
Storage and Processing
Utility (water, electricity etc.)

The Record of Past Lending
Mechanization Loans as Percentage of Agricultural Lending
Types of Loans and Equipment
Land Development
Cultivation
Plant Protection
Irrigation Pumping, Drilling and Sprinkler Systems
Harvesting and Materials Handling
Transport
Storage and Processing
Training
Service and Repair
Manufacturing
Allocation of Loans between "Imported" and "Indigenous" Equipment and Designs

Main Issues
Accuracy of Forecast Impact of Mechanization
Choice of machines and related technology for appraisal
Alternatives to Mechanization
2. FACTORS AFFECTING MECHANIZATION AND EQUIPMENT DESIGN

Contributing Factors

Agronomic
- Cropping System
- Crop Characteristics
- Crop Yields and Cropping Intensity
- Size of Fields
- Climate and Soils

Engineering
- Traction Needs of Prime Movers
- Local Manufacturing Capacity
- Materials Available
- Direction of Engineering R & D
  - based on fossil fuels
  - based on animal energy, bio-gas, etc.

Economic
- The Phenomenon of Peak Labor Demands
- Relative Prices of Services of Labor, Draft Animals and Motorized Equipment
- Value of Animal By-Products
- Labor Management Problems
- Size and Fragmentation of Holdings
- Adequacy of Machinery Service and Support Industries
- Regional Disparities in Growth Rates and Immobility of Labor
- Transfers of Machinery Technology from Developed Countries

Institutional
- Size Distribution of Land Holdings
- Land Tenure
- Sharing of Machinery Services

Some Theories of Mechanization
- The Labor Constraint Theory
- The Management Constraint Theory
- The Conspicuous Consumption Theory
- The Theory of Appropriate Machinery Technology

Impact of Mechanization
- Crop Yields
- Cropping Intensities
- Size of Holding
- Employment
- Tenancy and Tenure
3. FUTURE STRATEGIES FOR BANK LENDING

Role of Developed Country Equipment and Design
Promoting Local Machinery Manufacture
Need for Adaptive and Indigenous R & D
Animal-Drawn Equipment
Scope for "Appropriate" Motorized Technology
Strategies for Mechanising Small Farms

Related Policies
Policies for more Balanced Structural and Regional Growth
Policies to Improve Labor Migration
Avoiding High-Peaked Labor Demands
Minimum-till Methods of Land Preparation
Systematic Use of Animal Wastes

ANNEXES to contain:

(a) Arguments requiring lengthy development
(b) Any extensive statistical or descriptive material
(c) Any case studies
(d) Possibly the recommendations of the FAO/UNDP
    Expert Panel on Farm Mechanization which met in
    Rome in February 1975.
AGRICULTURAL MECHANIZATION ISSUES PAPER

(Background Note)

1. Agricultural mechanization may be defined broadly as the use of machinery together with human, animal and non-biological sources of energy to perform the physical processes of agricultural production. Agricultural machines therefore include such devices as the pointed stick used by primitive agriculturalists in sowing seeds, the hoe used in manual cultivation, the bullock-powered Persian wheel which lifts water from wells, in addition to all motorised forms of agricultural equipment.

2. Machines form part of the durable inputs of farm production. The line of demarcation that distinguishes them from other durable inputs may be difficult to define at times, but if an input is intimately connected with the transmission of physical forces in production, it should probably be viewed as a machine. By custom, this view does not extend however to such durable goods as the casing of a tube-well, a farm's electrical wiring or grain storage containers. By and large, however, the problem of defining the scope of agricultural machinery should not present any difficulties here. The common types of processes that offer scope for mechanization and the varying degrees to which they can be mechanized in developing countries will be described in due course.

Issues

3. Agricultural mechanization has been presenting problems of one kind or another for Bank lending almost from its beginning. Early in the Bank's history, the utilization and maintenance of machinery was the main problem, with the three main contributing factors being lack of spare parts, inadequate servicing facilities
and poorly trained machine operators. 1/ By 1955, the Bank was able to report that it had financed agricultural mechanization loans in 10 countries and was actively considering participation in 3 others. 2/ The most important kinds of loans were for the import of machinery on behalf of individual farmers 3/ - the precursors of present-day agricultural credit projects - and the major issues of concern were the amount of credit extended to farmers, the type of security demanded, the interest rate charged, the repayment terms, the dealers' mark-up, and the training opportunities, maintenance and servicing made available to users.

4. The same list of issues still arises in connection with current agricultural mechanization projects, but the methods of dealing with them have been defined reasonably well over the years. Now, 20 years later, the issues posed by mechanization are somewhat different, reflecting in some degree a change in perspective as to what are the most pressing social and economic problems of developing countries and, in particular, a greater concern now for employment levels and income distribution.

5. Rates of substitution among land, labor and capital in agricultural production have long been a subject of analysis, and there is an extensive literature on the scope for mechanical innovations being land augmenting, capital saving, labor displacing, etc. 4/ But much of the literature has been inconclusive or conflicting regarding what are desirable mechanization policies for developing countries to follow. A new machine can be, potentially, a means of saving capital if the equipment replaced costs more in capital resources. It can also be land augmenting if it replaces bullocks supported by cultivated fodder crops. Most commonly though, machines save labor, especially in the operation directly mechanized. It is the intimate connection between mechanization and employment that makes Bank lending for agricultural machinery

1/ See memorandum from the Department of Technical Operations to the Staff Loan Committee, "Utilization and Maintenance of Agricultural Machinery", April 2, 1953.


3/ see next page

4/ see next page
a sensitive issue, and this will receive major attention in the paper.

6. The methodology by which mechanization projects are evaluated does not raise issues of direct concern for Bank policy and perhaps this matter might be clarified first. The Bank's project evaluation procedures include three safeguards for ensuring that its loans and credits for agricultural mechanization are socially and economically desirable as well as financially attractive for farmers. First, a financial analysis of farmers' operations with and without the mechanical equipment is carried out to ensure that his net returns on the investment are attractive; and, of course, under the conditions of agricultural credit projects by which loans and credits are disbursed, individual farmers exercise their own judgements, choosing voluntarily whether to participate or not; this is perhaps the most important safeguard of financial viability. Second, an economic analysis is performed to check whether a mechanization project does, in fact, contribute to economic growth and not just to the enrichment of participants through favorable pricing and credit arrangements (i.e. at the expense of others); this analysis features adjustments to any factor and product prices which are believed to be distorted. Third, appraisal documents are required to report on the employment affects of all projects, to bring to notice any unusually disruptive effects on employment. If this is ultimately supplemented or replaced by the procedures for weighting the values of project benefits to recipients —

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3/ The two other categories of loans were either for financing the import of machinery on behalf of government agencies in order to operate machinery pools on specific projects or on a custom basis, or to provide foreign exchange for imports of agricultural machinery under a general system of import licences.

4/ For reviews of some of this literature see the following publications: Montague Yudelman, Gavan Butler and Ranadev Banerji, "Technological Change in Agriculture and Employment in Developing Countries", Development Centre of the OECD, Employment Series No. 4, Paris, 1971; etc.

Land Reform
as proposed in the "Economic Analysis of Projects" 1/ recognition of the employment and other distributive effects of mechanization projects would be subjected to quite elaborate safe-guards in the evaluation process.

7. Furthermore, during project preparation there are opportunities to emphasize the social and economic aspects of machinery projects in two other ways: (i) by checking whether the motivation of prospective farmer participants is consistent with the pattern of machinery usage forecast; and (ii) by seeking, where necessary, the rescindmant by member governments of any policies that favor unwarrantedly the employment of machinery at the expense of human and animal labor. It is judged, therefore, that the existing and impending formal procedures for evaluating mechanization projects do not neglect any serious issues of principle; although more emphasis may need to be placed in future, as we shall see, on ensuring that the motivations of farmers are consistent with project forecasts.

8. Rather, the major sources of contention in the recent past have concerned two problems that are difficult to separate: (i) the accuracy of forecasts of the effects of mechanization on output and employment that have been fed into the financial, economic and social evaluations; and (ii) whether the forms of mechanization chosen for evaluation have been the most appropriate ones. Both of these points of contention require for their resolution relevant theories about the role of mechanization, in addition to empirical knowledge of the various consequences of using mechanical technology in developing countries.

9. Given the uncertainties that confront project appraisals, it would not be surprising if, with hindsight, errors of prediction about project effects were uncovered. But, one has to be sensitive to two possibilities in the case of error: (a) that the Bank's theory of why farmers adopt machinery may be invalid in a particular

case, and hence most of the predictions or implications of that theory will also tend to be wrong; and (b) that the theory used is correct but predictions based on it -- of such effects as increments to crop yields, cropping intensities, and employment changes -- may be exaggerated. These might be viewed as rather trivial distinctions to recognise, especially if the errors of prediction are bad enough for the project to be judged a failure. But from the point of view of learning from experience, such distinctions are really most essential if we are to move towards resolving the first of the issues mentioned above.

10. The second issue is related to the first, but arises at an earlier stage during project identification and preparation. Essentially, it is concerned with the question of whether the kinds of mechanized technologies commonly proposed for Bank support are indeed the least-cost ones for developing countries. A considerable body of a priori reasoning challenges that we are not exploring purposefully enough the range of suitable equipment available, or potentially available in the long-run, through research and development.

**Purpose of Paper**

11. For reasons that are only too apparent in the literature, a resolution of the issues posed by agricultural mechanization is hampered most seriously by difficulties confronting research work in this field. There have been many contradictory conclusions drawn from research studies, partly because the observed effects of mechanization are often confounded with the effects of other investments and technological changes, and partly because the data, even if "good", are sometimes found to be compatible with several different a priori theories of mechanization. Hence, a certain amount of confusion and polarisation of views has resulted.

12. One of the objectives of the paper is to explain why this polarisation of views has occurred. We believe it is possible to distinguish several positive
theories of mechanization, i.e. explanations of why and how farmers adopt and use mechanical inputs; and that social, economic and institutional circumstances vary widely enough in developing countries for each of these theories to be exclusively valid from time to time and from place to place. Although none of the theories need necessarily justify a project as desirable or undesirable from an economic and social viewpoint -- that is a matter for evaluation -- it appears that one of them, the "management constraint" theory, is the least attractive as a normative social theory, given our current emphasis on improving income distribution and employment opportunities. It is judged important, therefore, to determine the conditions under which each of the positive theories is most likely to be the valid one, so that the risk of making inaccurate predictions as a result of employing the wrong theory can be minimized.

13. Another objective is to resolve some of the differences of opinion concerning the production effects of various mechanized operations and systems. However, it will be necessary to be exceedingly modest here. Most of these differences raise problems which are essentially empirical in nature and difficult to resolve in an Issues Paper. The more familiar ones only will be listed and some of the arguments reviewed, but it must be remembered that many of these differences of opinion involve questions of fact relating to a field for which generalizations are notoriously difficult to make. For example, tractor cultivation may contribute significantly to higher crop yields of wheat under commercial conditions on the rain-fed Deccan soils of India, but only marginally under irrigated conditions in Punjab, and so on. Nevertheless, despite the difficulties of assembling appropriate evidence and interpreting it, a review of these questions should allow some useful reflections on past lending practices.

Finally, it is hoped to draw as many lessons as possible from the aforementioned analyses and from the Bank's actual lending experience in agricultural mechanization. We propose to draw on these lessons to improve future projects and earn wider acceptance of the constructive role that mechanization can play in agriculture and rural development.
Outline

Chapter 1 of the paper reviews the role of agricultural machinery inputs in agricultural and rural development. It defines the role of power, processes and precision in agricultural production, lists the types of processes, and since a Bank mechanization policy has not been articulated as such before, it examines the de facto policy as revealed by an analysis of past loans. It then identifies the main issues to be considered in formulating future policies.

Chapter 2 reviews the causes and effects of agricultural mechanization and equipment design. This review begins with a crude classification of the factors affecting mechanization into agronomic, engineering, economic and institutional factors. It then moves on to discussing some simplified theories of mechanization and the relevance of these theories in view of observed results of mechanization programs.

Chapter 3 examines the scope for changes in Bank policies: first, by re-examining the role of machinery designed essentially for manufacture and use in developed countries; second, by exploring the possibilities of expanding the supply of more "appropriate" machines; and finally, by considering some of the indirect ways of influencing the supply of, and particularly the demand for, agricultural machinery.
Mr. P.A. Courbois/Mrs. H. Lindgren

N. Yudelson

Study of Costs of Providing Credit to Small Farmers in the Philippines, Thailand, Nepal, India, Pakistan, Afghanistan, and Iran.

Terms of Reference

1. On or about April 20, you will depart to the above-mentioned countries to visit the main agricultural credit institutions involved in the distribution of credit to small farmers in order -
   
   a) to collate and discuss the information on the cost of distribution of credit that has already been assembled in the Bank;

   b) to make arrangements for the collection of additional details as necessary and determine whether further appropriate field studies would be desirable and practicable.

Mrs. H. Lindgren will join you in Bangkok and assist you in your mission.

2. You will contact the following institutions and pay special attention to the following current credit programs and projects -

   **Philippines:** Central Bank. Department of Rural Banks, and Savings and Loan Associations.

   **Thailand:** Bank of Thailand, Bank for Agriculture and Cooperatives, and Commercial banks who are carrying out credit programs for small farmers.

   **India:** Reserve Bank of India. Agricultural Credit Department, Agriculture and Refinance Corporation, SFDA and HFAL agencies.

   **Nepal:** Agricultural Development Bank of Nepal.

   **Pakistan:** Central Bank (Central Bank credit scheme for small farmers). Agricultural Development Bank.

   **Afghanistan:** Agricultural Development Bank.

   **Iran:** Agriculture Cooperative Bank and Agricultural Development Bank.

3. The mission would take about one month. On your return to Washington you should issue a report on your findings and process the data collected.

   cc: Messrs. N. Yudelson, G. Darnell
Mr. M. Yudelman, Director, Agriculture & Rural Development

Mahmud Burney,IRD

Evaluation of Foreign Aid for Agricultural Development in Selected Countries

Please attach a copy of my memorandum of April 14, 1975 to Mr. Hoffman on the above subject. Mr. Hoffman feels that the proposed FAO study should be of interest to the Bank and therefore Mr. Mahajan's visit to exchange views with us should be useful. Subject to your concurrence and that of the regions, Mr. Hoffman would like us to suggest that Mr. Mahajan spend May 12 and 13 in the Bank.

I am sending copies of this note (with attachment) to Mr. Willoughby and to the regions. Although a tentative selection of countries has been made, the FAO is awaiting concurrence of the countries concerned.

I would like Mr. Mahajan to know as soon as possible whether the above dates are convenient to us.

Att.

cc: Mr. Willoughby, Director, OED
Mr. Blazall, Asst. Dir. Projects, LAC
Mr. Haynes, Asst. Dir. Projects, EMENA
Mr. Hendry, Asst. Dir. Projects, EADS
Mr. Picciotto, Asst. Dir. Projects, SA
Mr. Rowe, Asst. Dir. Projects, WA
Mr. Vergin, Asst. Dir. Projects, EAP

MB:immcd
Mr. Michael L. Hoffman

Mahmud Burney

Evaluation of Foreign Aid for Agricultural Development in Selected Countries

You will recall our brief conversation in Rome with Mr. B.S. Mahajan, Chief, Evaluation Service, Development Department of FAO (headed by Mr. Yriart). The Evaluation Service is initiating a comprehensive evaluation of external technical and capital aid to agriculture in five countries with a view to formulating recommendations for national governments (LDCs) and external donors. The emphasis would be on production as well as rural development. You said that Mr. Yriart earlier this year had talked to you about the Bank's reaction to this effort and you had indicated interest in pursuing the matter.

I now have an outline of the proposed study, including a plan of work (copy attached). Apparently some $500,000 are allocated for the study, about half of it coming from the Netherlands Government and the remaining half from the regular budget of FAO. The five countries are likely to be Tunisia, Tanzania, Sri Lanka(?), Indonesia and Peru. Mr. Mahajan, who will be the coordinator, would like to start with Tunisia in September 1975. He is very anxious to have full exchange of views with appropriate departments and divisions in the Bank on the selection of countries, scope of work and particularly on the nature and the extent of Bank cooperation/participation. He would like the Bank to be involved as much as possible. To explore various possibilities he would like to come to Washington in the first half of May for one or two days. He will also be talking to UN (UNDP), USAID and CGFPI.

He has asked me to let him know whether the timing is convenient. He will then send us additional information for discussion. Because of his plans and as the exercise may start in September, his preference is for an early exchange of views. Could we suggest May 12 and 13? I believe the drill would be to have the first meeting chaired by Mr. Yudelman and attended by representatives from appropriate regions, OED and DED.

When asked I told Mr. Mahajan that the Bank is much interested in what he is planning to do, but given staff commitments it was not possible for me to give any indication of the extent of Bank involvement. I asked whether an in-depth as well as a comprehensive country study in a complex sector like agriculture can be carried out within 20 man-months assigned. He said these were the limits given to him.

Could we discuss?

Att.

cc: Mrs. Boskey

MB: mard
Mr. J. Goering

April 8, 1975

W.P. Pantor

Land Settlement Policy Paper - Southeast Asia Projects Department Experiences with Land Settlement Projects

1. Further to your memo dated January 20, 1975, experience in this region with land settlement projects is confined to Malaysia, Papua New Guinea (PNG) and Indonesia with 5, 2 and 1 ongoing projects respectively. Two further projects, one in Indonesia and the other in Malaysia are currently under preparation. All the above projects are dealt with by the General Agriculture Division.

2. Experience with identification, preparation, appraisal or supervision of these projects is shared among several staff, but the reflections which follow are largely those of the author.

3. A. Summary of Projects being Implemented

Malaysia

3. All five projects are managed by the Federal Land Development Authority (FELDA), which now has nearly 20 years of experience in settlement work behind it. FELDA began in a small way with a few prototype schemes which aimed at developing early self-reliance in the settlers, while the Authority undertook a mainly coordinating role between government agencies responsible for provision of land, planting material (rubber and oil palm) and infrastructure. In an effort to overcome difficulties encountered in the early schemes, FELDA moved towards more direct involvement in scheme operation, including closer control of crop production and processing analogous to that of the estate industry. The schemes are developed from primary forest, and they include provision of a high level of infrastructure and social services.

4. Settlers on these projects, as on all FELDA schemes, are carefully supervised; development costs per settler are high; as also are the social amenity standards provided in the settlement villages; crop production and processing systems are similar to those of the estate industry, although average yields are rather lower; incomes of settlers once the main crop comes into production are comparatively high in spite of substantial deductions to cover development loan repayment and on-going management charges; settlers are carefully selected from among the needy and capable; and plot size per settler is generous in comparison with average size of smallholder unit in the areas of origin. Land ownership is arranged on a group basis on the more recent schemes.
PNG

5. These two, relatively small, oil palm settlement projects are of the nucleus estate type, with the estate entity providing the processing facilities. Assistance is confined to provision of road access and other social infrastructure, contract felling of forest, planting material, extension advice and general guidance.

6. Title to land was given to settlers on entry under these projects and plot development is carried out largely at the initiative of the individual settler; uneven development and absentee ownership has resulted; considerable scope for individual initiative is provided; particularly rich soils have resulted in exceptionally high yields of oil palm (the principal crop) and correspondingly high incomes; processing capacity, provided by an independent estate entity, fell behind crop production in the early years, resulting in some loss of income; settlement pattern follows a linear village layout, with families living on their main production lot; selection of settlers was based largely on interview without benefit of a "points" system to quantify individual worth; which appears to have opened the door to political preference for future projects.

Indonesia

7. This project combines a settlement element (3 ha each for 1,000 landless laborers), and a fringe alienation element (2 ha each for 3,100 smallholders) on a sub-divided government estate, with a replanting, primary processing and marketing scheme for other smallholders in the same neighborhood.

8. Progress has been disappointingly slow on this project, which is currently graded as a problem project. A poorly staffed (expect for a nucleus technical assistance group) and loosely organized entity is encountering numerous teething problems, including non-availability of funds, procurement delays, administrative inefficiencies and interference, apparently of a political nature, which are likely to persist.

B. Issues Related to Bank Lending

9. Experience with the above projects has shown the following to be among the major issues related to Bank lending for settlement:

   (a) Need for, and contribution of, settlement in relation to the overall sectoral and national development situation.

   (b) Organization of settlements, whether through a coordinating body; direct control by one public sector agency; or by private sector or joint venture arrangement.

   (c) Site selection, whether intensification within existing developed areas, peripheral to existing developments, or pioneer in a previously undeveloped region.
(d) Nature and quality of the land conditions (terrain, soil, drainage) in terms of suitability for the crop and type of settlement proposed.

(e) Scheme size and structural layout pattern for village and associated agricultural holding.

(f) Unit holding size and cropping pattern.

(g) Target income for settlers.

(h) Settler selection criteria.

(i) Lease terms and other conditions governing settler participation.

(j) Degree and efficiency of central management control.

(k) Extent of opportunities for development of settler initiative and independence.

(l) Development cost per settler.

(m) Cost recovery system.

(n) Processing and marketing arrangement.

(o) Environmental impact.

cc: Messrs Milford, Dax, Prins

WPPanton/ag

1/ MALAYSIA - Jengka I (533), Jengka II (672), Jengka III (885), Johore Tenggara (967), Keratong (1014)

   INDONESIA - Smallholder Rubber (358)

   PNG - Agricultural Development I (137), Agricultural Development II (175)

2/ INDONESIA - Transmigration and Rural Development

   Sarawak Land Settlement
A Bank-Wide System for Data Processing and Analysis of Agriculture and Rural Development Projects

Following up previous discussions with staff from the Regions, EDI and DPS about a standardized computer program for farm budgets, we held a seminar in our Agricultural Economics Unit last week, which was also attended by Bob McPheeters and Don Pickering. I outlined, and we discussed, a proposed vertically integrated system of data collection and analysis, moving from the basic agro-economic data, through farm budgets, project budgets, financial cash flow analysis to cost-benefit analysis, using market, economic-efficiency and social prices. The system will be computerized in a modular form, using and modifying existing programs wherever possible. But, first of all, before any programming takes place, every part of the system will be specified in plain language and then in symbolic language on the basis of worksheets. It will be done this way:

(a) in order to balance the demands for comprehensiveness with the needs for simplicity and standardization, and

(b) to avoid duplication and to ensure adequate integration of the various parts of the system.

The specification of the system in symbolic language will provide the necessary instructions to the computer programmers. Some of the worksheets can subsequently be used by project staff to provide the input data for each module in the system when in operation. I attach a schematic flow chart, illustrating the system. The purpose of this scheme is five-fold:

(a) to provide a standard set of definitions to be used in farm budgets, etc.;

(b) to provide a set of worksheets and a standardized computer program in modular form which should save project staff much tedious computing work which is largely done by hand with the aid of desk calculators at the moment;

(c) to provide standardized tables and charts for preparation and appraisal reports which will enable the reader to see an orderly progression of the analysis of data through the various stages;

(d) to facilitate the kind of behavioural analysis of the key agro-economic variables which will ensure that proper account is taken of uncertainty and risk; and
(e) to provide a basis for recasting agriculture and rural development appraisal reports in a way which will bring out the real issues and assumptions made in the economic analysis and justification of projects.

The above work will be carried out by Al Egbert, Bill Cuddihy and Hyung Kim, with Al in charge, and I have told them that I attach highest priority and urgency to this task.

I am copying this memorandum to the Regional Assistant Directors of Agriculture and their Division Chiefs and to the EDI staff in order to let them know that we are going all out to produce a workable system as soon as possible. We are working closely with some of the Regions' technical staff and the EDI and will continue to consult with and keep the Regions and EDI informed. The end results will be submitted in draft form for their comments and it is envisaged that the final system will be issued as "Guidelines to the Regions" and be of help to the EDI in their courses.

Attachment:

cc: Regional Assistant Directors of Agriculture
Chiefs of Agriculture and Rural Development Divisions
Senior Advisers, AGPDR
Agricultural Economics Unit
Messrs. J. King, McPheeters, Christoffersen, Price Gittinger, Brown, Muller and J. Hansen
SCHEMATIC FLOW CHART OF A COMPUTERIZED SYSTEM FOR PROCESSING AND ANALYZING DATA FOR PROJECT PLANNING

RESOURCE DATA

BASIC AGRO-ECONOMIC DATA

DATA STORAGE AND RETRIEVAL

WORKSHEETS

LIVESTOCK FARM BUDGET SUB-Routine
FORESTRY FARM BUDGET SUB-Routine
IRRIGATION FARM BUDGET SUB-Routine
RAINFED FARM BUDGET SUB-Routine
CREDIT FARM BUDGET SUB-Routine

COMMON FARM BUDGET ROUTINE

NON-FARM BUDGET

WORKSHEETS

FARMER'S CASH FLOW

PROJECT CASH FLOW

COST-BENEFIT ANALYSIS

FINANCIAL COST-BENEFIT
ECONOMIC COST-BENEFIT
SOCIAL COST-BENEFIT

APPRaisal REPORT TABLES

APPRaisal REPORT TABLES
Mr. A. Golan

M. Saddington

April 1, 1975

Crop Insurance: A Technique for enhancing small Holder Returns
Draft Paper by V. MacDonald

1. This report concludes that "the instituting of a package of services including crop insurance is a desirable and feasible venture which, if carried out under rather rigid criteria can serve to raise the level of production and provide increased incomes to large numbers of smallholder producers."

2. The report points out that there are some 645 million people in developing countries with annual incomes below US$50 per capita, and there is a need for innovation in programs and techniques used to try and lift their share of national income. Consideration is asked for the introduction of crop and livestock insurance to provide a guaranteed minimum return to farmers in the subsistence sector. The theory of insurance is described and existing crop insurance programs in developed and developing countries are summarized. The author then calls for the World Bank to support the establishment of national crop insurance components in a select group of rural development projects in developing countries.

3. While the paper puts forward plenty of reasons for crop insurance (stability of income, a good credit risk), a little information is supplied on the cost of such schemes. Hopefully the collection of cost data will be the main purpose of the proposed field work. Main costs involved are administration, the payment of indemnities and establishment of reserve funds. These costs will be founded by the government, and the farmers through their premium payments. The guaranteed minimum return to farmers should be sufficient to cover a farmer's operating costs plus a living allowance until another crop can be grown. The total cost of a crop insurance scheme should be compared to other possible schemes to stabilize farm income.

4. It is suggested that the field work try and identify any increases in production resulting from crop insurance. The author maintains that crop insurance will do this, however, a review of the Sri Lanka scheme showed no evidence of such increased production.

5. The author suggests (Page 39) that the insurance program should be considered "only in countries with adequate agricultural, economic and philosophical infrastructure". However, the paper is vague as to what constitutes an adequate infrastructure but judging from the brief explanation of agriculture infrastructure, it is unlikely that such infrastructure will exist in countries where most of the rural poor live (e.g., India, Bangladesh, Indonesia).

6. Again the author suggests that initially the program should be voluntary as to the region where it is introduced, but compulsory for all producers in that region. It will be most important that crop insurance is eventually compulsory for all producers of a commodity so that risks are spread and the program does not only operate in the riskiest areas.

cc: Mr. H. Vergin
April 1, 1975

Mr. C. R. Willoughby, Director, OED

W. H. Spall, Division Chief, ASPAD

Draft of Report on Agricultural Credit Programs

1. Reference your memo of February 11, 1975, I attach hereto comments on detail by staff members in this Division who have studied the draft. I understand Mr. Yudelman will be sending you a memo covering comments of a more general nature.

cc: Messrs. Yudelman
R. Powell
D. Brown
Jeffries
Headworth
Stoneham
von Wallenberg
Picciotto
Collier

A Stoneham:rh
Draft of Report on Agricultural Credit Programs
Comments of ASPAD Staff Members on Detail Points

1. Mr. D. Brown

(i) Extensification vs. Intensification: The Report reviews the components of agricultural growth, i.e. Extensification and Intensification, and recommends concentration of Bank lending on small farmer intensification projects. On the basis of their field survey data they conclude that extensification benefits due to Bank financing accrued more to large farmers who were able to acquire more land, economic power, and community status than small farmers. The statistical support for this statement was not included in the report. Nevertheless, to restrict Bank investment finance to small farmers (below the 40% line) means that about 75% of the crop and pasture land area would not be benefited. In addition, restricting sub-borrowers to those who agree not to acquire additional land would be extremely difficult for an on-lending agency or the Bank to regulate. From the beginning of recorded history, man has given a high priority to acquisition of land in his value system. The OED proposed restriction is not likely to change the situation.

(ii) Sample Form Survey: This is a before and after or matched sample farm survey based on the farmer-borrowers five-year memory. I suggest that the Report discards most, if not all, of this material. The best that can be said for it is that farmers did use the investment funds for the intended purpose, and that the investments were viable. For current and future agricultural projects, the OED should suggest practical ways and means of providing an on-going evaluation component in project financing and Loan/Credit Agreements. Issues of Bank policy regarding extensification vs. intensification, substitution vs. additionality, large vs. small farmer lending are difficult to resolve by farm survey techniques or by simplistic farm model building. Supplementary studies of the program impact on these issues, if any, should include valid methodology that provides data sensitive to statistical analysis. Project evaluation is discussed on pp. 384-85. It should be expanded.

(iii) Project Preparation: The discussion on pp. 422 and 424 does not include the role and functions of the Bank's Agricultural Sector studies, the CP/IBRD Co-operative Program, UNDP and in-country work. Also, the suggestions made fail to coordinate the various Bank administrative divisions involved, i.e. program, project, agriculture and rural development etc. Many of the issues involved are under constant review by the appropriate administrators and study agencies. The Draft's plan needs depth analysis that provides support or it should be rejected.

(iv) Bank Objectives: In some countries there is a conflict in Bank objectives of development lending between maximizing agricultural production and achieving distributive equity. The report's insistence on distributive equity programs has not been justified on the basis of the field surveys and analysis. Perhaps this could be reviewed again.
2. Mr. R. Headworth

(1) Background Paper No. 3: Some of the current information is well out of date; there is at least one inaccurate statement, and some comments and recommendations are so superficial as to be misleading. A few examples:

(a) Where the information is out of date:

(i) Page 22. GOP and ADBP have agreed that ADBP can increase its lending rates when necessary, at the discretion of its Board; and

(ii) Page 22. Interest rates have increased by a further 1% and ADBP has agreed to charge an additional 1% on the penal rate.

(b) Inaccurate statement:

(i) Page 22. "loans are adequately secured." Over 5,200 loans amounting to Rs 3.3 million have already been written off - many more are still to be written off; and

(ii) Page 22. "ADB has established bad debt reserves" and "has had its overdue accounts audited." The overdue accounts have not been audited and ADB has not adjusted its bad debts reserve during the last three financial years.

(c) Superficial comments and recommendations tending to be misleading:

(i) Page 22. The only recommendation affecting ADBP's financial viability is that ADBP's losses in East Pakistan should be written off. To this should be added, recoupment of the amount ADBP has paid since 1971 and injections of capital to meet its lending and capital expenditure program. Also, a major factor is the amount of interest, taken in annually to the Profit and Loss account, which has never been collected (some cases being 10 years overdue);

(ii) Page 22. The only recommendation on the critically overdue situation is that ADBP should increase the mobility of its field staff. To this should be added, a review of ADBP's procedures for recovery, a review of its security standards and also of its lending criteria;
(iii) Page 28. "Channelling applications (for tractors) through the head office (ADB) causes serious delays." When a farmer has to wait between one to three years for delivery of a tractor, the requirement that the application be approved by head office cannot cause a serious delay. In any case that statement is contradictory to the one on page 118 which states that "the branch manager generally sanctions it (the application) within five days...the information is forwarded to head office."; and

(iv) Page 99. "Since ADB has not been obliged to make significant write-offs, the proportion of loans falling under the category of bad debts has been negligible. Although the loans are adequately secured..." Many loans are bad debts even though ADB has not yet written them off and what the author considers to be adequate security is, in many cases, merely "paper" security.

(ii) Administration: Hardly any of the administrative problems have been highlighted, and there are no recommendations affecting ADB's organization and administration. The Supervision Report dated March 20, 1975 (copy enclosed), gives the up-to-date position.

3. Mr. A. Stoneham

(i) Indian Agricultural Credit Program: The statement on p. 299 that the Indian program has largely depended on private banking channels is misleading. Of the refinance provided by the Agricultural Refinance Corporation under the 10 on-going projects up to June 30, 1974, only 7% was through scheduled commercial banks (which are nationalized). The rest was through the cooperative banking system, mainly the State Land Development Banks. Under normal Bank Group usage of the words, "private banking channels" would not be an acceptable description of the Indian cooperative banking system.

(ii) Continuity of Appraisal and Supervision: The problem of continuity of Bank staff for appraisal and supervision of individual projects is not new, but there is a considerable body of experienced opinion among management and operational staff that continuity is not necessarily a good practice, and that in many circumstances it is desirable for a fresh mind to look at a project. I do not feel the draft makes out an acceptable case for continuity. In practice the manning of supervision missions has to depend on the nature of the project's particular problems at the time. With current constraints, no region can afford to send a full complement of specialists to look at all aspects in detail at all supervisions, nor is it necessary or desirable.

4. Mr. G. von Wallenberg

(i) Philippine Credit Projects:

(a) Mr. Gonzalez-Vega pointed out at several occasions that the Bank should not have insisted on a 10% contribution
by Rural Banks. It has been an acceptable principle that each institution participating in a credit program should contribute its own funds to have a stake in the project and also to mobilize local resources. In the case of the Third Rural Credit Project, IBRD asked Rural Bankers again to contribute 10% (which is not higher than generally asked from other institutions) and agreed with the negotiating team that weaker banks (with less than P 500,000 net worth) and young banks (less than three years old) need not contribute more than 5%. This has been included in the Rules and Regulations governing the administration of sub-loans. The question of Rural Banks' contributions received senior management's attention during negotiations and the concessions made to the Philippines do not seem to have been fully appreciated. The last appraisal mission never thought Rural Banks' contributions would seriously discourage them from participating and be an obstacle to project implementation. This has been confirmed by the fact that commitments are far ahead of schedule.

(b) The consultant's report claims that the mission did not calculate the opportunity cost of the Rural Banks' contributions although they appear in the appraisal report only in a summarized form (para. 7.06). Our calculation showed that it is very profitable for Rural Banks to participate, particularly as the demand for short-term lending cannot be arbitrarily expanded. Medium- and long-term credit would not only supplement short-term lending, but eventually also cause it to expand.

(c) The report criticizes that the Bank did not try to increase the interest rates in the Philippines. The conclusions read as follows: "Financial development in a basic sense has not been affected by the IBRD presence. The IBRD has accommodated its projects within the existing distorted structure, without trying to improve it in a substantive way. The first mission suggested raising interest rates charged on medium- and long-term loans to a uniform level, because it was obvious that disbursement would not take place at their previous level. No other suggestion affecting a similarly strategic variable was ever made, despite numerous opportunities to do so. The IBRD missions should stop viewing the financial system as a passive element in economic development and should contribute in questioning the strategy of low rates of interest and inflation that has been so damagingly pursued."

The author obviously did not know that this issue had been discussed with the Governor of the Central Bank and the Government, and that the Bank had good reasons for
not pressing it harder at that stage. One of the reasons was that the Bank projects were not large enough to be a powerful leverage. Total lending of the Rural Banking system was only 2.2% of total institutional lending in the Philippines, or 20.4% of total agricultural lending; it was only about 0.3% of annual total institutional lending. There were also legal complications involved. The interest rate structure in the Philippines is a complex subject which could not be discussed in the appraisal report in detail. The author of the report - after a two weeks' trip to the Philippines - doesn't seem to fully realize the economic and political environment in which our projects have to operate.
Crop Insurance: Draft Report - Some Comments

1. Smallholder crop insurance is desirable but seems hardly feasible. To differentiate between crop losses in production caused by natural influences rather than lack of management skill and compensate accordingly would require a vast policing force. There is also the danger that, similar to production subsidies, crop insurance might lead to increasing cultivation of marginal, high-risk land, wasting often rare resources such as draft power, seed, fertilizer.

2. Insurance against crop failure resulting from clearly definable natural causes such as hail or armyworm attack, might be possible even under smallholder conditions. Insurance against general adverse weather poses difficulties of determining an insurance base and, considering the recent vast crop failures in Ethiopia, W. Africa, Bangladesh, etc. would often lead to astronomically high compensation claims which in turn would require similarly high insurance premiums out of reach of most smallholders. This danger is enhanced as insurance of food crops against adverse weather influence would be of particular importance in marginal cropping areas where risks are high and differentiation between management related and climate related causes for crop failure is particularly difficult.

3. The subject requires considerably more, careful, analysis before any large-scale Bank Group involvement appears feasible.

4. The suggestion is made that detailed surveys be undertaken of the insurance schemes in Kenya and Sri Lanka; a few comments:

(a) Kenya. The Kenya scheme, introduced during World War II, was essentially aimed to assist large-scale farms through guaranteeing returns sufficient to cover investments in means of production. A later extension of the scheme, first to group farms then to smallholders, proved disastrous.

(b) Sri Lanka. The pilot insurance scheme, 1958-1973, compulsory first on 15,000 acres, later on 200,000 acres of paddy land, required heavy government support. The scheme was abolished with the introduction of the Agricultural Insurance Law in April 1974. A new insurance scheme was supposed to start with the 1975 summer (Yala) crop, covering about 700,000 acres of paddy land. Implementation was to be based on the local Agricultural Productivity Committees. Recognized problems affecting
introduction of the scheme are: lack of basic data; lack of qualified staff; limited ability of farmers to pay a high enough premium; and inadequate government finance to purchase necessary equipment, transport, etc. UNDP was approached to assist with the scheme but it seems unlikely that it can in fact be implemented in 1975.

5. I doubt that detailed study of the schemes in Sri Lanka and Kenya would be meaningful at this juncture.

6. The more limited insurance schemes of Jamaica and Mauritius might be more suitable for analysis.

cc: Mr. R. Picciotto
OFFICE MEMORANDUM

TO: Messrs. Donaldson, Downing, Peprah, Weiss/Baranson

FROM: Paul Duane

DATE: March 28, 1975

SUBJECT: Outline of Mechanization Issues Paper

1. Attached is a revised outline of the above paper consisting of a brief table of contents, a more detailed table of contents, and a draft of the introduction. I would like to prepare from these an outline that is both acceptable to each of us and that can be distributed to others in the Bank for comment. The deadline for delivery of a draft for staff level review is May 31, 1975.

2. Currently, the staff committed to preparing this paper are as follows: Messrs. Donaldson, Downing, Duane and Peprah. Mr. Weiss has indicated that Mr. Baranson might be available also.

3. I propose that we meet on Thursday, April 3, at 3:00 p.m. in Room D.860 to discuss the paper, with perhaps the following agenda:
   
   (i) Discussion of outline,

   and, if an outline is agreed,

   (ii) Division of responsibilities (including invitations to any others interested in writing small or large pieces)

   (iii) Any related business.

4. Mr. Peprah has been working for about three weeks on "the record of past lending". He will give us a brief report on what can be learnt about this from examining Appraisal Reports.

5. I think we should try to obtain comments from other interested members of the Department before we meet. I have reserved Room D.860 for this purpose at 10:00 a.m. on Thursday, April 3; anybody wishing to make suggestions or comment is welcome to meet with us then, or they can pass their comments directly to one of us.

6. Mr. Yudelman has expressed reservations about changing the status of this paper from that of "Issues" to that of "Policy" at this time. This does not prevent the paper from being prepared as a policy paper later, after it has cleared the hurdles as an issues paper.

cc: Messrs. Bruce and Economic Unit staff

Yudelman
Stoops
Picketing
Darnell
Courbois
Fransen
Rowe

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AGRICULTURAL MECHANIZATION ISSUES PAPER

(Outline)

SUMMARY AND RECOMMENDATIONS

1. INTRODUCTION
   Issues
   Purpose of Paper
   Outline

2. NATURE AND EXTENT OF AGRICULTURAL MECHANIZATION
   Role of Power, Processes and Precision in Agriculture
   Types of Processes
   Mechanization Investment Levels in Developing Countries

3. FACTORS AFFECTING MECHANIZATION AND EQUIPMENT DESIGN
   Contributing Factors
   Theories of Mechanization
   Impact of Mechanization

4. THE WORLD BANK'S POLICIES
   The Record of Past Lending
   Future Strategies for Lending
   Related Policies
AGRICULTURAL MECHANIZATION ISSUES PAPER

(Outline)

SUMMARY AND RECOMMENDATIONS

1. INTRODUCTION

   Issues
   Purpose of Paper
   Outline

2. NATURE AND EXTENT OF AGRICULTURAL MECHANIZATION

   Role of Power, Processes and Precision in Agriculture
   Types of Processes

   Land Development
   Land Preparation
   Secondary Cultivation
   Plant Protection
   Irrigation Pumping, Drilling, Sprinkler Systems
   Harvesting and Materials Handling
   Transport
   Storage and Processing
   Utility (water, electricity etc.)

   Mechanization Investment Levels in Developing Countries

3. FACTORS AFFECTING MECHANIZATION AND EQUIPMENT DESIGN

   Contributing factors

   Agronomic
   Cropping System
   Crop Characteristics
   Crop Yields and Cropping Intensity
   Size of Fields
   Climate and Soils

   Engineering
   Traction Needs of Prime Movers
   Local Manufacturing Capacity
   Materials Available
The Phenomenon of Peak Labor Demands
Relative Prices of Services of Labor, Draft Animals and Motorized Equipment

Labor Management Problems
Size and Fragmentation of Holdings
Adequacy of Service Industries
Regional Disparities in Growth Rates and Immobility of Labor

Transfers of Machinery Technology from Developed Countries

Institutional
Size Distribution of Land Holdings
Land Tenure
Sharing of Machinery Services

Some Theories of Mechanization

The Labor Constraint Theory
The Management Constraint Theory
The Theory of Appropriate Machinery Technology

Impact of Mechanization

Crop Yields
Cropping Intensities
Size of Holding
Employment
Tenancy and Tenure

The World Bank's Policies

The Record of Past Lending

Mechanization Loans as Percentage of Agricultural Lending
Types of Loans and Equipment
- Land Development
- Cultivation
- Plant Protection
- Irrigation Pumping, Drilling and Sprinkler Systems
- Harvesting and Materials Handling
- Transport
- Storage and Processing
- Training
- Service and Repair
- Manufacturing

Allocation of Loans between "Imported" and "Indigenous" Equipment and Design

Future Strategies for Lending

Role of Developed Country Equipment and Designs
Case for Promoting Machinery Manufacture in LDCs
Need for Adaptive and Indigenous R and D
Animal-Drawn Equipment
Scope for "Appropriate" Motorized Technology
Strategies for Mechanising Small Farms
Related Policies

Policies for more Balanced Structural and Regional Growth
Policies to Improve Labor Migration
Avoiding High-Peaked Labor Demands
Minimum-till Methods of Land Preparation

ANNEXES: to contain:

(a) Arguments requiring lengthy development
(b) Any extensive statistical material
(c) Any case studies
(d) Possibly the recommendations of the FAO/UNDP Expert Panel on Farm Mechanization which met in Rome in February 1975.
INTRODUCTION/OUTLINE

1. Agricultural mechanization may be defined broadly as that means whereby the energy of human and animal labor is either transmitted or supplemented in performing the physical processes of agricultural production. Agricultural machines therefore include such devices as the pointed stick used by primitive agriculturalists in sowing seeds, the hoe used in manual cultivation, the bullock-powered Persian wheel which lifts water from wells, in addition to all motorised forms of agricultural equipment.

2. Machines form part of the durable inputs of farm production. The line of demarcation that distinguishes them from other durable inputs may be difficult to define at times, but if an input is intimately connected with the transmission of physical forces in production, it should probably be viewed as a machine. By custom, this view does not extend however to such durable goods as the casing of a tube-well, a farm's electrical wiring or grain storage containers. By and large, however, the problem of defining the scope of agricultural machinery should not present any difficulties here. The common types of processes that offer scope for mechanization and the varying degrees to which they can be mechanized in developing countries will be described in due course.

Issues

3. Agricultural mechanization has been presenting problems of one kind or another for Bank lending almost from its beginning. Early in the Bank's history, the utilization and maintenance of machinery was the main problem, with the three main contributing factors being lack of spare parts, inadequate servicing facilities...
and poorly trained machine operators.  

By 1955, the Bank was able to report that it had financed agricultural mechanization loans in 10 countries and was actively considering participation in 3 others. The most important kinds of loans were for the import of machinery on behalf of individual farmers— the precursors of present-day agricultural credit projects — and the major issues of concern were the amount of credit extended to farmers, the type of security demanded, the interest rate charged, the repayment terms, the dealers' mark-up, and the training opportunities, maintenance and servicing made available to users.

The same list of issues still arises in connection with current agricultural mechanization projects, but the methods of dealing with them have been defined reasonably well over the years. Now, 20 years later, the issues posed by mechanization are somewhat different, reflecting in some degree a change in perspective as to what are the most pressing social and economic problems of developing countries and, in particular, a greater concern now for employment levels and income distribution.

Rates of substitution among land, labor and capital in agricultural production have long been a subject of analysis, and there is an extensive literature on the scope for mechanical innovations being land augmenting, capital saving, labor displacing, etc. But much of the literature has been inconclusive or conflicting regarding what are desirable mechanization policies for developing countries to follow. A new machine can be, potentially, a means of saving capital if the equipment replaced costs more in capital resources. It can also be land augmenting if it replaces bullocks supported by cultivated fodder crops. Most commonly though, machines save labor, especially in the operation directly mechanized. It is the intimate connection between mechanization and employment that makes Bank lending for agricultural machinery

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1/ See memorandum from the Department of Technical Operations to the Staff Loan Committee, "Utilization and Maintenance of Agricultural Machinery", April 2, 1953.


3/ see next page

4/ see next page
a sensitive issue, and this will receive major attention in the paper.

6. The formal process by which mechanization projects are evaluated does not raise issues of direct concern for Bank policy and perhaps this matter might be clarified first. The Bank's project evaluation procedures include three safeguards for ensuring that its loans and credits for agricultural mechanization are socially and economically desirable as well as financially attractive for farmers. First, a financial analysis of farmers' operations with and without the mechanical equipment is carried out to ensure that his net returns on the investment are attractive; and, of course, under the conditions of agricultural credit projects by which loans and credits are disbursed, individual farmers exercise their own judgements, choosing voluntarily whether to participate or not; this is perhaps the most important safeguard of financial viability. Second, an economic analysis is performed to check whether a mechanization project does, in fact, contribute to economic growth and not just to the enrichment of participants through favorable pricing and credit arrangements (i.e. at the expense of others); this analysis features adjustments to any factor and product prices which are believed to be distorted. Third, there is a formal watching brief on the employment effects of all projects, designed to detect unusually disruptive effects on employment. If this is ultimately supplemented or replaced by the procedures for weighting the values of project benefits to recipients —

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2/ The two other categories of loans were either for financing the import of machinery on behalf of government agencies in order to operate machinery pools on specific projects or on a custom basis, or to provide foreign exchange for imports of agricultural machinery under a general system of import licences.

4/ For reviews of some of this literature see the following publications: Montague Yudelman, Gavan Butler and Ranadev Banerji, "Technological Change in Agriculture and Employment in Developing Countries", Development Centre of the OECD, Employment Series No. 4, Paris, 1971;.............. etc.
as proposed in the "Economic Analysis of Projects" recognition of the employment and other distributive effects of mechanization projects would be subjected to quite elaborate safe-guards in the evaluation process.

Furthermore, during project preparation there are opportunities to emphasize the social and economic aspects of machinery projects in two other ways: (i) by checking whether the motivation of prospective farmer participants is consistent with the pattern of machinery usage forecast; and (ii) by seeking, where necessary, the rescindment by member governments of any policies that favor unwarrantedly the employment of machinery at the expense of human and animal labor. It is judged, therefore, that the existing and impending formal procedures for evaluating mechanization projects do not neglect any serious issues of principle; although more emphasis may need to be placed in future, as we shall see, on ensuring that the motivations of farmers are consistent with project forecasts.

Rather, the major sources of contention in the recent past have concerned two problems that are difficult to separate: (i) the accuracy of forecasts of the effects of mechanization on output and employment that have been fed into the financial, economic and social evaluations; and (ii) whether the forms of mechanization chosen for evaluation have been the most appropriate ones. Both of these points of contention require for their resolution relevant theories about the role of mechanization, in addition to empirical knowledge of the various consequences of using mechanical technology in developing countries.

Given the uncertainties that confront project appraisals, it would not be surprising if, with hindsight, errors of prediction about project effects were uncovered. But, one has to be sensitive to two possibilities in the case of error: (a) that the Bank's theory of mechanization may be invalid in a particular

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case, and hence most of the predictions or implications of that theory will also tend to be wrong; and (b) that the theory used is correct but predictions based on it -- of such effects as increments to crop yields, cropping intensities, and employment changes -- may be exaggerated. These might be viewed as rather trivial distinctions to recognize, especially if the errors of prediction are bad enough for the project to be judged a failure. But from the point of view of learning from experience, such distinctions are really most essential if we are to move towards resolving the first of the issues mentioned above.

10. The second issue is related to the first, but arises at an earlier stage during project identification and preparation. Essentially, it is concerned with the question of whether the kinds of mechanized technologies commonly proposed for Bank support are indeed the least-cost ones for developing countries. A considerable body of a priori reasoning challenges that we are not exploring purposefully enough the range of suitable equipment available, or potentially available in the long-run, through research and development.

Purpose of Paper

11. For reasons that are only too apparent in the literature, a resolution of the issues posed by agricultural mechanization is hampered most seriously by difficulties confronting research work in this field. There have been many contradictory conclusions drawn from research studies, partly because the observed effects of mechanization are often confounded with the effects of other investments and technological changes, and partly because the data, even if "good", are sometimes found to be compatible with several different a priori theories of mechanization. Hence, a certain amount of confusion and polarisation of views has resulted.

12. One of the objectives of the paper is to explain why this polarisation of views has occurred. We believe it is possible to distinguish several positive
theories of mechanization, i.e. explanations of why and how farmers adopt and use mechanical inputs; and that social, economic and institutional circumstances vary widely enough in developing countries for each of these theories to be exclusively valid from time to time and from place to place. Although none of the theories need necessarily justify a project as desirable or undesirable from an economic and social viewpoint -- that is a matter for evaluation -- it appears that one of them, the "management constraint" theory, is the least attractive as a normative social theory, given our current emphasis on improving income distribution and employment opportunities. It is judged important, therefore, to determine the conditions under which each of the positive theories is most likely to be the valid one, so that the risk of making inaccurate predictions as a result of employing the wrong theory can be minimized.

13. Another objective is to resolve some of the differences of opinion concerning the production efforts of various mechanized operations and systems. However, it will be necessary to be exceedingly modest here. Most of these differences raise problems which are essentially empirical in nature and difficult to resolve in an Issues Paper. The more familiar ones only will be listed and some of the arguments reviewed, but it must be remembered that many of these differences of opinion involve questions of fact relating to a field for which generalizations are notoriously difficult to make. For example, tractor cultivation may contribute significantly to higher crop yields of wheat under commercial conditions on the rain-fed Deccan soils of India, but only marginally under irrigated conditions in Punjab, and so on. Nevertheless, despite the difficulties of assembling appropriate evidence and interpreting it, a review of these questions should allow some useful reflections on past lending practices.

14. Finally, it is hoped to draw as many lessons as possible from the above-mentioned analyses and from the Bank's actual lending experience in agricultural mechanization. We propose to draw on these lessons to improve future projects and earn wider acceptance of the constructive role that mechanization can play in agriculture and rural development.
Outline

Chapter 2 of the paper reviews the nature and extent of agricultural mechanization. It defines the role of power, processes and precision in agricultural production, lists the types of processes, and gives the range of mechanical investment levels in developing countries.

Chapter 3 reviews the causes and effects of agricultural mechanization and equipment design. This review begins with a crude classification of the factors affecting mechanization into agronomic, engineering, economic, and institutional factors. It then moves on to discussing some simplified theories of mechanization and the relevance of these theories in view of observed results of mechanization programs.

Chapter 4 reviews Bank policies. Since a mechanization policy has not been articulated as such before, we examine first the de facto policies as revealed by an analysis of past loans. We then propose how the Bank should approach future lending for agricultural mechanization; and how it should deal with other issues that have a bearing on this matter.
Ms. Anne Gesell

J. Karl Lee

March 26, 1975

The Role of Peasant Women - Draft Questionnaire

1. I have completed the questionnaire for three countries and am transmitting them herewith.

2. Without putting them in context, the responses that I have made would actually mean very little to anyone reviewing them. Therefore, I have added some additional comments about each of the three areas for which I have provided questionnaires.

3. Southeastern Asia (Thailand, Laos, Khmer Republic and South Vietnam)

The climate is tropical in this area and so the people have minimum needs for both housing and clothing. Houses are generally constructed of wood - often on stilts - and present very few problems of upkeep. Clothing is made of cotton materials and is relatively simple in pattern. The family diet is rather limited consisting primarily of rice, fish and vegetables. When they are in season, the family may have limited amounts of fruit - mangos, bananas, or papaya. In some cases they may have coconuts from which they extract the milk for use in their curry. The domestic water supply generally comes from a village well, or if they are not fortunate enough to have one, from a nearby pond or ditch. The water is generally carried in two buckets, one on either end of a shoulder pole. Except in the delta area, wood is available for cooking fuel. In the delta areas, charcoal is generally used. The older children generally take care of the younger and the children all assist in herding the buffalo which are used in the paddy fields. Because of the lack of a water supply during the dry season, most families do not have gardens. In limited cases the ladies have hand looms and prepare the material which they use to make some of the families' clothing. The family buys some vegetables, fish or poultry from the local market.

4. The traditional division of labor that is normally found in the western household does not exist here. It is not uncommon for men to assist with the preparation of meals, the family laundry and the care of the children. Conversely, the women assist with the field work.

5. Under such conditions the demands on the ladies' time in connection with activities that are generally regarded as "housekeeping activities" are not very great. Her major household chores are carrying water, gathering fuel, marketing and preparing food. (The village does not have electricity and so she has no electrical gadgets to occupy her time.)

6. The ladies' major jobs are in connection with the production of field crops. She normally transplants the paddy, harvests it, and assists with the threshing.
7. Any significant improvements in her lot are more likely to come from agricultural improvements rather than improvements in the household as such. Improvements in threshing techniques would do much to relieve her of a time-consuming task, but this does not seem to be in the offing. Simple hand powered threshers can be designed and built quite cheaply, but for some reason or another they have never become popular, although in traveling over the country some of them are seen. Where roads are available a two-wheel cart that could be used for the transport of water would be of great assistance to the family, but in most cases the water is carried along paths - not roads. If they had instruction, most families would make good use of treadle sewing machines. Soap is generally quite expensive and is, therefore, used sparingly. Housewives would undoubtedly be happy if it could be made more generally available at lower prices.

8. Farm families need information in the area of public health and hygiene, as well as medical assistance. During the cooler part of the year, it is not uncommon for most of the children to have colds and some kind of an eye infection.

9. India

The situation in India is different than that in Southeast Asia in several important aspects. In the first place the climate is more severe during the winter season and so more substantial homes are required. This in itself increases the tasks of "housekeeping." Wood is not generally available for fuel and so the collection and drying of various materials to be used for fuel imposes a much greater burden than in Southeast Asia. In much of India the clothing worn by the people consists only of pieces of material and so little time is required for the sewing of clothing. Also, even though the caste system has been officially eliminated, many of the habits of that system still linger. Even in the rural villages there are still certain castes who do the laundry, keep the streets clean, etc. And so by tradition the farm ladies are relieved of some of the chores that are normally performed by ladies in other societies. But the Indians do use milk; thus the care of the cows and milking imposes a chore that is not present in Southeast Asia. The Indians are mostly vegetarians and so do not have to bother with the care of or marketing for either fish or poultry. However, since they are vegetarians, they do use a wider variety of grains and cereals in their diet than the Southeast Asians.

10. Because of these differences, I would estimate that the Indian housewife spends a somewhat greater proportion of her time in the house than her Southeast Asian counterpart. Also, because of the wide variety of crops produced, she probably also spends more time in the fields. (This all adds up to less leisure time.) Soap is very expensive in India, and consequently, most rural families use very little of it. It is not used in the washing of clothing in most villages.
Nepal

I have included Nepal in the list for two reasons. First, the farms are small and all the field operations are performed by hand. Since neither buffalo or oxen are used on the farms for draft power, there is no source of power for transport. Practically all transport is performed by humans. To some extent ladies are involved in the transport and except for carrying water this is a job that they do not have in either India or Southeast Asia. The other reason for including Nepal is that the climate is more severe than that of India as a whole. On the whole this necessitates even more substantial housing than that required in India. Consequently the job of "housekeeping" is somewhat greater in Nepal than in either India or Southeast Asia. Since there are no cows, the Nepalese lady does not have to help with the care of and the feeding of livestock.

The wide introduction of two-wheeled carts would do much to improve the lot of the Nepalese people including the ladies. These could easily be manufactured locally.

Conclusion

Sorry to be so negative. Ladies' lot is tied to the income potential of the farms, and with the small farms that exist in this part of the world, that potential is not very great. But even so, the best way to improve the life of rural women is to increase the farm income and at the same time improve the techniques for doing the farm tasks so they will not be so burdensome. (The ladies in Nepal wear a large piece of cloth wrapped around their waists. When asked why they did this, they replied that this made it easier to do stoop labor which they performed in the fields day after day.)
OFFICE MEMORANDUM

TO: Mr. Leif E. Christoffersen
FROM: Michael Cernea

DATE: March 26, 1975
SUBJECT: Report on Agricultural Credit Programs

1. The OED Report is the first draft of an impressive and thought-provoking piece of work. The study analyses agricultural credit programs in five different countries (Mexico, Uruguay, Morocco, Pakistan and the Philippines), totaling 10 credit projects during the 1960's and early 70's. The investigation methodology included: a) a careful analysis of the appraisal and supervision reports; b) interviews with staff involved in these programs; c) topical studies; d) and special field surveys in each of the 5 countries.

2. The outcome of this broad analysis is a comprehensive report, addressing a wide range of problems, beginning with policy issues and going all the way down to procedural aspects. Much attention was payed to the analysis of the on-farm impact of the investments financed by the loans. In light of the ultimate results achieved by these projects, the Report questions whether improved project design and appraisal and whether closer supervision could have achieved more with the same amount of resources. The Report attempts to capture the main lessons coming out of the experience of these credit projects and to spell out recommendations for improving future performance.

3. I found this kind of analytical evaluation particularly constructive and it will no doubt be of high value to staff engaged in the preparation of future agricultural credit programs.

THE SAMPLE

4. The sample of credit projects submitted to this analytical evaluation is somehow limited, not so much in size but rather in substance and in its diversity. The 5 credit programs are representative more of past Bank credit activities rather than for current credit concerns and for future orientations, as delineated in the Agricultural Credit Policy Paper and in the Rural Development Policy Paper. These projects were addressed to large farmers, not to small farmers (rural poor). They were not very much concerned with integrating credit with several other components, in comprehensive multisectoral projects. By design, these projects put the credit program in the hands of a Bank rather than of a local development authority. The OED Report is aware and candid about these limitations, partially unavoidable if one attempts to examine completed projects. However, asking
many questions of present concern, the Report succeeds in providing an insight into many recurrent issues that come up in any agricultural projects.

I would suggest for future OED in-depth evaluation analyses a somewhat different approach to sample building. It is true that "full" representativeness can never be achieved and no group of projects can be constructed to cover the universe of Bank projects. However, if instead of selecting a "homogenous" group of case studies (18 projects more or less similar in approach, objectives, target groups) the sampling would aim at a rather "non-homogenous" group of case studies, then new analytical and comparative perspectives would arise for the evaluation effort. Such a non-homogenous sample would consist of two or three sub-groups of projects, selected so as to include contrasting approaches or other significant differences in some major project variables. Comparison would thus become possible within each sub-group of similar projects as well as between the different contrasting sub-groups (types) of projects. The comparative approach in evaluation is proven to be very fruitful.

CREDIT PROJECTS PROCEDURES

I believe that the conclusions reached and the proposals put forward by the OED Report in respect to the Bank procedures in project design, appraisal and supervision deserve careful consideration. Though some of them seem to be controversial, (e.g., the proposal to shift "junior staff" in the Bank to credit projects for large farmers and "senior staff" to small farmers), the Report as a whole sounds convincing in much of the criticisms expressed in respect to previous procedures and in its emphasis on the need for improving the patterns and the tools of project work.

a) Supervision

Possibly the most important conclusion of the evaluation report in this respect concerns the role of supervision missions. The report concludes that a major weakness of the projects under analysis was (p.394) "the disproportionately small attention given to supervision...It is especially destructive in agricultural projects, where indicators of field impact and operational failures are difficult to obtain...The supervision schedule permitted no time for such analysis".

The in-depth study found that all the five programs were systematically "undersupervised by the Bank" (p.136) and that "the present supervision system is unsuited to handle any impact monitoring job" (p.131).
The Bank is probably suffering losses in project accomplishment attributable to the undercommitment of resources to supervision and monitoring. The Report convincingly suggests that the timetable and emphasis of the present supervision system should be reconsidered. A "special supervision function could be decycled from the normal supervision timetable" (p.432) and it should be concerned mainly with evaluation of impact and process variables (once a year). In addition, the Report suggests that a special section on impact should be required in each regular supervision report. This could "shift the focus of the supervision process as a whole away from disbursement" (p.432).

8. If these conclusions are true for large farmers projects, they would probably be even more pertinent for the supervision effort on small farmers development projects. The larger the number of projects beneficiaries, the more necessary the effort for more frequent and substantive supervision. A stronger concern and increased capabilities allocated by the Bank for supervision, which would include more emphasis on on-going evaluation, might result in more feedback from the target group, in on-going adjustment of initial assumptions and in increased impact. Therefore, the specific improvements suggested by OED deserve a careful screening particularly now, when the Bank is geared toward more R.D. projects for large numbers of rural poor.

b) Monitoring

9. The Bank played an important role in developing a monitoring system of the credit programs in two out of the five countries considered. Initially, this is accounted for in the Report and is rated as an "institutional innovation" (p.300) into which the Bank induced the national credit agencies. Particularly, the monitoring system created in Mexico was efficient in providing continuous feedback on project impact and it is regrettable that not all the results of the Mexican monitoring experiments were available to the OED study (p.36). Nevertheless, it is quite possible that not enough attention was payed by the Bank to the operational value of the monitoring system's feedback and such systems were not built in all the countries. Such a criticism is expressed in a more or less balanced way at p. 300-301, but it is utterly overstated in a sweeping and ironic statement at p. 386: "The failure to build monitoring and extension capabilities into the institutional package did not stop the participants from raising their output and income". This statement is not consistent with the facts concerning Uruguay and Mexico, described in the Report.
INSTITUTION BUILDING THROUGH CREDIT PROGRAMS

10. I was particularly interested, in reading the OED Report, in one crucial sociological implication of agricultural credit programs: the capacity of institution building of these programs, as it was displayed in the areas for which credit was allocated. This is an important issue, because institutional impact in various forms should be sought as one of the long-term consequences of any credit programs in the post-project periods, in addition to its immediate specific effects.

11. The Report takes a somehow contradictory and ambiguous stand in evaluating the institutional impact of the discussed credit projects. One may find opposing statements in various parts of the OED Report. At p.370 the Report makes a strong concluding statement: "in none of the countries was much emphasis given to institution building, in the sense of the development of rural financial markets...". However, qualifying statements follow immediately, pointing out to the contrary—namely, exceptions in three of the five countries (Uruguay, Mexico, Morocco; pg. 46-47). On pg.45 it is also mentioned that "institutional building has had very little influence in the five country sample and institutional channels were not selected and prepared for a larger role...". But the conclusions (p.370) of the Report do emphasize, on the contrary, that "in all five countries the totality of institutional innovations promoted by the Bank to ensure the proper assignment, disbursement, collection and accounting of program credit has the character of an institution building program and ex-post analyses in recent repeater appraisal reports have begun to emphasize institutional achievements" (p.370). It is also mentioned (p.47) that "the Moroccan case-study points out that the institutional impact of Bank participation was far greater than the percentage-wise contribution of Bank funds would suggest; and that that impact was planned" (my emphasis). The same accomplishments are endorsed at p. 390-391, where the Report states: "The Bank can claim some credit for the impressive institutional expansion and development that has occurred in the last decade in all five countries".

Thus, such and other (several) inconsistencies in evaluations should be removed from the present draft.

12. At a certain point in the OED Report, some 5 important institutional improvements generated by the Bank are described, actually disproving the Report's grim appraisals on pp. 45 and 370. The following quote might be revealing:

"Innumerable improvements in institutional structure and management systems were introduced with greater of less initial enthusiasm by the domestic agencies under the prodding of the Bank missions (my emphasis). The gradual decentralization of the farmer loan approval process,..., the creation and/or strengthening of regional centers...
(are) important management innovations which the Bank has pressed successfully in at least three countries. Accounting systems have been revolutionized... In the strengthening of these institutions, to play the role they are now playing, the Bank can take substantial credit and satisfaction..." p.295.

13. In view of the facts referred to in the main part of the Report, the overall concluding evaluation of the Bank's institutional impact must be revised. It might possibly be true that a higher priority and a more deliberate orientation of the Bank toward long-term institution building could have produced even more impressive institutional developments. But this does not imply belittling of what has been achieved.

14. From a sociological point of view, one may conceivably make a distinction between what I would call "spontaneous" institutional effects of a certain program and intended (planned) institution building. Maybe such a distinction is implicit in the mind of the Report authors when they deny an emphasis "given to institution building"; but it would hardly be possible to attribute the institutional consequences of the Bank's programs only to the "spontaneous effects". It is also true that, given the more complex demands of the new-style rural development projects, institutional building in rural areas should become (and currently do become) a matter of even higher direct concern to the Bank. The Bank's project intervention pattern in areas with high density of rural poor is capable of producing and helping the implementation of locally adjusted institutions, which would survive the Bank's phase-out and would support further development in the post-project period. Such a shift in emphasis toward the concern with the social and sociological aspects of the institutional goals would require also changes in the project design and appraisal. The OED Report, on the basis of the analyzed programs, is in a good position to make a strong point in that respect, relevant for present and future Bank policies, (for instance, the projects analyzed in the OED Report did not resort to the whole range of local credit institutions needed to cope with large numbers of farmers - credit cooperatives, multipurpose institutional arrangements, various schemes of group responsibility for sub loans to individuals etc.)

PRODUCTION STRATEGIES

15. Production objectives - increases in crop and livestock output - were shared by all five country credit programs. However, the OED Report makes an interesting point in that these programs do not appear in retrospect to have followed a common pattern designed by the Bank and that the Bank did not have and never contemplated a master strategy for optimizing the production impact.
16. Within the room provided by the credit provisions, the borrowers resorted to different production strategies and investments. The Report draws constantly a sharp distinction between "intensification strategies" and what is called in the text "extensification (expansion) strategy" (p. 76-77). Such a distinction is legitimate and fruitful for analytical purposes. The Report authors are generally right in favoring productivity oriented intensification strategies, however, it seems to me that the Report: a) exaggerates the "opposition" between these two approaches and is rather reluctant to see the large opportunities of combining them wherever possible, as complementary strategies for the purpose of production increase; b) tends to underestimate the productive consequences of livestock inventory build-up (purchase and retention of breeding stock). The latter should not be seen merely as a form of "extensification", since the process of capital gain in cattle raising has some peculiarities which should not be overlooked. Herd increase (purchase or retention of breeders) should be seen as a very significant achievement of the programs under evaluation.

As a whole, the OED Report is of course right in emphasizing the priority which should be given in future small farmer projects to the enforcement of "intensification strategies" through technical and managerial improvements.

17. I also doubt whether the Report's criticism and disbelief (see p. 112-113) of the Rural Development Policy Paper in respect to benefits forecast and productivity is valid. The Policy Paper points out that there are different manners of assessing the rate of return and that the R.D. projects approved to date have shown adequate rates of return when the quantifiable benefits and costs are assessed in the usual manner. For some projects, the rates of return have been satisfactory even when the cost of those components for which benefits cannot be quantified have been included along with other costs. However, it does not follow, as the Policy Paper does point out, that this will necessarily always be the case in the future. The OED Report authors confess that they "would still be nervous" about the benefits forecast in the Policy Paper, but they do not present a valid argument and tend rather to oversimplify the more complex position taken in the Policy Paper.

Another point with which I disagree is the Report's criticism that the Policy Paper does not show concern for productivity strategy. On the contrary, the Paper's main emphasis is on productivity components and on technological packages. Its leading idea is that the agricultural credits should be just the instrument and component of complex integrated projects, aimed at inducing small farmers into technological and farm management improvements, oriented towards raising productivity and increasing production.

TECHNICAL ASSISTANCE

18. One of the "major organizational deficiencies" (p. 384) of the credit programs and agencies, according to the Report draft, was "the lack of a capability for providing or assuring technical assistance adequate to
enable borrowers to reach the production levels projected" (p.385).

However, refining its analysis, the Report seems to contradict its own stand, pointing out that, under the circumstances, "we have concluded that it would be unwise to throw additional technical resources into the large farmer credit programs" (p.387). Moreover, it is also pointed out that "farmers of this type and station (large farmers) could learn little from their extension agents" (p.386). The criticism expressed in the Report against the non provision of technical assistance termed as a "major deficiency", is also invalidated by another strong statement: "increases in the size of the technical team were unlikely to result in commensurate increases in productivity" (p.386). If the latter statement is correct, then the programs shouldn't be criticized for not including a component which anyway wouldn't have generated a "commensurate increase in productivity".

Farmer Behavior and Field Surveys

19. One of the frequently utilized concepts in the OED Report is "farmers' behavior". From a sociological point of view, it is indeed very important to find out what the impact of credit on the behavior of the farmers is and whether we can predict the behavior of farmers who are offered credit and investment opportunities. Unfortunately, this concept is often repeated in the Report but nowhere is it analyzed in depth. I wonder also whether the field surveys carried out by OED among the borrowers and among the farmer control groups attempted to find out what the farmers' economic mentality and economic rationality was. Do the assumptions of the credit strategy, built into the project, match the economic rationality of the farmers as to which is the most efficient, "rationale" behavior? Or did the field surveys grasp any significant feature of the economic psychology of farmers, explaining their behavior, which should be taken into consideration in future credit projects?

20. I would suggest that, in revising this first draft, the authors of the OED Report should attempt to use any additional information available from their field survey which might throw some light on this crucial variable - attitudes and economic motivation and rationality. I confess to have expected more of the output of the field surveys to be included in the Report (where it was done, as for instance the interesting data from the sub-survey of tenants displaced by the tractor program, p.210-216, it provided more relevant evaluation of effects). I also suggest that the questionnaires used in the field survey be included as annexes of the final version of the OED Report.
21. The present draft contains numerous repetitions and some inconsistencies. While unavoidable in a first draft, they should be eliminated through careful revision and editing. In some respects, the very structure of the Report leads to redundancies. A better balance between analysis and synthesis should be sought. That would help to control better the total impressive length — now 100 pages! — of the Report (for instance, the discussion of monitoring systems is resumed again and again: pp. 33-37; pp. 300-303; p. 364; p. 366; p. 401). The issue of farm models is discussed in at least 3 different places in almost similar terms: pp. 352-357; pp. 100-101; pp. 132-134; other examples can be provided. The section on "conclusions", which should be concise and rely on the evidence presented in the Report's body, contains broad digressions, describing and/or discussing specific examples and situations.

Possibly, the design and methodology of the evaluation effort should be summarized in 2 pages, while the rest — approximately 25 pages — could be removed into an Annex, containing the full design description and the analytical tools used, as well as methodological "afterthoughts" and recommendations for future studies of this caliber. Such a piece of work could be of high interest per se.

22. The OED Report contains very many other valuable analyses, findings and explicit or implicit recommendations, to which I do not refer in the present comments. In spite of the criticisms or suggestions expressed above on certain points, I'd like to close this note by repeating my overall appreciation of this very comprehensive OED effort and its illuminating and constructive contribution.
Additional Comments on agricultural projects monitoring system

1. I have the distinct feeling that this whole monitoring system is not worth the staff time involved, that it will consist mainly of providing soft figures and will end up leading management to believe that something is happening in the field which in fact is only happening on paper. There is very little justification for having the preliminary Project Information Briefs 3\(\frac{1}{2}\) to 4 years ahead of Board presentation, even though the preliminary brief seems simple enough. The full brief is another matter and will greatly increase the burden of project appraisals and supervision missions. If this must be done then the form isn't too bad. I believe that we would only be able to get reasonably meaningful information of the sort that is sought here if we were able to set up for each project a monitoring unit in the field. This unit would also be able to make the economic evaluation of projects which would be needed to compare appraisal with performance and to see that the benefits presumed are in fact likely to be achieved, the focus of the Project Evaluation Department's recent review of agricultural credit projects.

2. Below are some specific comments or questions on the full Project Information Brief:

In Item 8, Total Project Cost Estimates (by major components) it is unclear to me and not covered in the "Notes of Explanation" whether supportive items like Market Centers and Processing/Storage refer to supportive of the economy as a whole or supportive of the project itself. I presume it is the latter, in which case, when the main focus of the project is, say, grain storage or building markets, these items should probably be listed as components in the Agriculture category which includes the main parts of the project. What is wanted should be made clear.

Item 8, Category e, Non-Agricultural or Social, is fairly self explanatory but is it intended that the project investment here covers incremental investment arising from the project or all health, education, water etc. which is going on connected with the project or the project area? Depending on how we want to define this, we can take credit for a lot of social investment that we are only capturing in our project definition net, especially in integrated rural development projects.

On Item 12, a, Project Beneficiaries, Country Poverty Levels, country figures for some items, Proportion of total pop. in Target Group e.g., are not going to be very meaningful for a country the size of India.

Does Item 12, e refer to employment generation per year?
Item 12, f, I do not see how one can add up items 9 and 10 to get the total direct project benefits when item 10 consists of the cost per beneficiary of incremental social benefits. Is cost equivalent to benefit by definition?
March 24, 1975

Mr. Edward V. Mendenhall  
General Manager  
Deofo Rebat Inc.  
325 North Dawson Drive  
Camarillo, California 93010

Dear Mr. Mendenhall:

Thank you for your thoughtful letter of March 8 addressed to Mr. Yudelman.

You are correct in believing that as ways of conveying a knowledge of improved farming practices to small farmers overseas, neither bringing their college graduates here nor sending ours overseas are very effective. There are, however, two major obstacles to the approach you suggest:

(a) the farming techniques used on the large farms in the United States, where labor is constantly being replaced by capital, bear little relation to those which would be useful on a small "farm" (possibly less than 1 acre) overseas. (For example, you refer to the disappearance of the man with boots and a shovel; most of the farmers with whom we work have never even seen a pair of boots, and most could not afford to buy a shovel!); and

(b) virtually none of the bright young farmers or potential farmers you speak of can understand English and many are functionally illiterate. To bring many of them here would require a massive educational program to teach them a language they might never use again.

We are happy to be able to tell you, however, that in spite of all the difficulties, progress is being made in agricultural extension in many of the countries where we work. Farmers are learning improved practices (adapted to the land sizes and other constraints under which they have to work) from graduates of their own and overseas agricultural colleges.

I am enclosing a copy of a report on "Rural Development" on which the article you referred to was based for your information.

Thank you again for your interest.

Sincerely yours,

George F. Barnell  
Acting Director  
Agriculture and Rural Development Department
March 21, 1975

Mr. J. Mugo-Gachuhi, Director
Institute of Development Studies
University of Kenya
P.O. Box 30197
Nairobi, Kenya

Dear Mr. Mugo-Gachuhi:

I am planning to visit Nairobi for a few days starting April 9. I would like very much to have an opportunity of visiting the Institute and getting to know its present work and future plans.

To give you some idea of the work we have been doing, I am sending you a paper which lists some of our output and outlines and some research ideas that we expect to pursue. Also enclosed is a draft of the report on "The Design of Rural Development: An Analysis of Programs and Projects in Africa" by Uma Lele in which you will be interested. I will very much welcome your views on this report.

I will telephone you on arrival in Nairobi and arrange a convenient time at which I can meet with you and your associates.

Looking forward to seeing you,

Yours sincerely,

Ravi Gulhati
Director
Development Economics Department

Enclosures
March 20, 1975

Mr. Sartaj Aziz
Director, Commodities and Trade Division
Food and Agriculture Organization of the
United Nations
via delle Terme de Caracalla
Rome, Italy

My dear Sartaj:

Many thanks for your cable. I am glad to know that you
will be in Rome when I visit and that we will spend some time
together. My present plans are to arrive on Tuesday, April 15
via East African Airways 9614 from Nairobi and to leave for London
on Thursday, April 17. On this basis, I will have roughly a day
and a half for discussions with you and your colleagues in FAO.

My objective is to establish a working relationship with
people who have an interest in research and policy questions in
the rural development field. I imagine this means the Economic
and Social Policy Department and the Development Department. To
give you and your associates some idea of the kind of work we are
doing in the Development Economics Department in the Bank, I am
sending you the following papers:

1. The Design of Rural Development: An Analysis of
   Programs and Projects in Africa by Uma Lele.
2. Health Policy Paper
3. Rural Development Policy Paper (jointly with
   Agriculture and Rural Development Department)

These papers are not yet in final form and some of them
are subject to a great deal of revision. If you feel that there
will be some interest on the part of your colleagues, you may
wish to distribute copies of these papers to them and I will be
keen to obtain their reactions and suggestions.
It will benefit me greatly to hear about FAO's current and proposed work on the research and policy side and I will welcome an opportunity to talk with the relevant people including Messrs. Ojala, Bhattacharjee, Abercobia (he has the Lele paper already) and Kotter.

Looking forward to seeing you and the family. With my best wishes,

Yours sincerely,

Ravi Gulhati
Director
Development Economics Department

P.S. Could you please inform Bhim Mahajan about my visit to Rome.
Mr. Russell Cheetham

March 19, 1975.

On P. Nijhawan

Monitoring/Control System for Rural Development Projects - A System for Establishment of Upper Income Level of Target Groups (Yudelman's Memorandum to Chief Economists and Senior Economists of February 18, 1975.

"Upper income level of target groups" defined in terms of adequate diet (minimum recommended calories based on local consumption habits) and some associated standard of non-food necessities would certainly seem more appropriate than the "blanket criterion of bottom 40% in all countries'. Though poverty is relative, defining poverty only in terms of the bottom 40% can ignore, in many cases, a large segment of the population who may be above the bottom 40% in relative terms, but live in absolute poverty. In some cases it may include others who may not require special consideration in programs designed to alleviate poverty.

2. Besides providing a useful system for monitoring and control of rural development projects, defining poverty in terms of minimum standards can also help in developing a measure (though rough) of the unfulfilled basic needs of a community. Such a measure is important for it must influence the very design and content of rural development projects. It is also important for projecting future food requirements at adequate levels, as well as the pattern of future demand for other necessities. These in turn must influence over-all planning for the entire productive structure. Thus, such an exercise can help develop a basic tool for rural development planning - for agriculture, small and medium scale industries, rural public works programs etc., and for devising systems which will encourage involvement of those who now do not fully and efficiently participate in the productive process.

3. With such basic importance for developing information on poverty profiles in different countries, time spent would certainly seem worthwhile. Work on this should however be done in consultation with countries concerned through various Bank missions.

4. Developing requisite information for such an exercise requires data on three aspects:

   (1) total population and age structure of that population (to calculate recommended minimum average calorie intake),

   (2) traditional consumption basket based on local production and eating habits which gives minimum average calories,

   (3) prices (rural) to determine the value of the consumption basket.
5. Data on (1) and (3) above are generally available for most countries. Data for calculating (2) above is scarce. This requires consumption or family budget surveys which if not available should be developed as a part of rural development strategy. In the meantime however, in the absence of such surveys some rough measure can easily be developed. For example, available data on public health in most developing countries show that over 60% of the calories and proteins consumption comes from cereals alone. Besides, in Indonesia nearly 20% of calories come from starchy crops, roughly 7% from pulses, nuts and seeds, 4% from sugar, 2% from vegetables and fruits, another 2% from fish, meat, eggs and milk and about 4% from fats and oils. A consumption basket based on available produce and one which gives adequate calories can thus be devised and could serve as a basis for calculation in (2) above.

While it will take some time in developing requisite reliable information, it would seem worth the effort.
Mr. L. E. Christofferson  

March 17, 1975

A.M.S. Ahmad

Seminar on Rural Development - University of Wisconsin, Madison - Back-to-Office Report

1. In accordance with the terms of reference issued to me on February 27, 1975 I visited Madison from March 10 to March 14 and participated in seminar discussions held at the University of Wisconsin.

2. The topics of the seminar on the subject of Economic Problems of Under-Developed Areas covered discussions on:
   (a) Experience and Lessons of Comilla;
   (b) Cooperatives: Mobilizing the Rural Population for Development;
   (c) Development Administration at the Bottom and at the Top; and,
   (d) Land Reform - The Intractable Problem.

3. The seminars were attended by several members of the faculty of the university and by Ph.D. students in Development and civil servants from various countries who are attending a course on Development at the Center for Development of the University.

4. Dr. David Johnson, Dean of International Studies and Programs, arranged a meeting with some of the members of the faculty for me to explain the Bank's policies and practices in the field of Rural Development. A list of those who attended this meeting is attached as Annex A. My presentation on the role of the Bank in Rural Development was based on the policy paper on the subject. A summary of my talk to the group is attached as Annex B. The group was very interested in the topic; they had read newspaper reports of the previous week on the Bank's role in this field.

5. The second part of my meeting with the members of the faculty was devoted to exposition by the various faculty members of what was being done by the University of Wisconsin which could be of relevance to the Rural Development Division in the Bank. From the account given, it seemed that a large number of the members of the faculty had, on an individual basis, undertaken creative research in various aspects of rural development in Latin America, Asia, Africa and the Middle East. The University seemed to have undertaken a fairly wide range of research, under the aegis of the College of Agriculture, relating to land tenure.
6. In June 1975 the University is holding a conference which will focus on experiences on group-farming. It is expected that in these discussions, experiences in China, USSR, Israel, Chile, Peru, Egypt-Sudan, Sri Lanka, Tanzania and Dahomey will feature prominently. The objective of this conference is to formulate principles and conclusions on varied types of experiences in group-farming.

7. In the summer of 1976 the Land Tenure Center of the University will convene an international conference on the problems of land tenure. The first such conference was held 25 years ago in 1951. Like the last one, the next conference is expected to analyze land tenure relations as an integral part of national systems of institutions. The questions on which special attention is expected to be given are:

(a) Farm Organizations;
(b) Effects of the Green Revolution;
(c) Production Organization; and,
(d) Production, Employment and Distribution.

8. The Land Tenure Center had undertaken examination of various problems in several countries. An idea of the nature of work done at the Center can be had from the mimeographs and brochures in the attached envelope.

9. Recently the University is focusing on what is commonly known as Home Economics. The lady in charge of the programs in Madison mentioned that enough attention was not being paid to women in rural areas who could do a great deal in improving the social and economic conditions of the rural poor. She suggested that if we are interested in getting more information on the subject we could get in touch with Mrs. Hunsley Green of the American Home Economic Association, 2010 Massachusetts Avenue.

10. I would recommend that a representative from the Bank attend the conference on group-farming scheduled to be held in June this year as well as the international conference on Land Tenure expected to be held in the summer of 1976. It may be useful for us to find out what the American Home Economic Association has been doing to involve women in rural areas of developing countries in the social and economic welfare of the rural people, especially the poor.

ABSAhmadipin

Attachments
David B. Johnson, Dean, International Studies and Programs
Peter P. Dorner, Professor of Agricultural Economics and Chairman of Department
David King, Assistant Professor of Agricultural Economics, Land Tenure Center
George F. Gant, Professor of Political Science, Development Center
Bryant E. Kearl, Professor of Agricultural Journalism
David Bromley, Associate Professor of Agricultural Economics
Sydney Staringorch, Professor of Agricultural Economics
Archibald Haller, Professor of Rural Sociology
Until a few years ago, Bank's concern with development in rural areas was, by and large, confined to supporting capital-intensive projects for agricultural development, mainly in the field of irrigation.

Over the years, however, a wider range of activities in the field of agriculture, e.g., credit for improved seed, fertilizer, equipment, storage, marketing, processing, research were included in Bank's activities. Between 1961-65 irrigation formed 79% of the investment in agriculture. Though in absolute terms there was an increase, share of irrigation in such investment fell to 30% in the years since 1970.

In recent years there has been an increasing awareness that growth in agriculture was not benefiting the poor resulting in stagnation of the productivity and income of the poor. Mr. McNamara, in his address to the Board of Governors in September 1973, drew pointed attention to the staggering problem of rural poverty involving 750 million individuals. He urged the need to consider the question of allocation of resources for development not only from the point of view of output of an investment but also from the point of view of distribution of benefits.
4. In recent years, the Bank has been allocating much larger resources than before to programs directed at alleviating rural poverty and helping the lower-income producers become more productive. In FY71 the Bank supported 11 projects costing US$70 million in which the expectation was that 50% or more of the rural poor would be directly benefited. In FY74 the number of such projects rose to 28 costing US$474 million.

5. The recent focus on rural poverty has given birth to what could be termed "new-style projects" which are characterized by:

(a) providing benefit to large numbers of rural poor;

(b) comprehensiveness in respect of small-scale agriculture;

(c) low-cost per beneficiary to enable replication.

6. The salient features of Bank lending for agriculture and rural development in recent years are:

(a) Share of agriculture in total lending has increased considerably: from US$173 million in 1968 to US$980 million in 1974;

(b) Share of poor countries in Bank's lending operation increased significantly (countries with GNP of less than US$150 received 22% of lending for agriculture in FY54-68; this rose to 38% during FY69-74;
(c) Number of low-income groups benefiting directly from Bank lending increased (percentage of participating farmers owning less than 5 ha in Bank agricultural projects rose from 17 to 67%).

7. Bank's role in rural development has been under intensive examination and discussion with other international agencies and with knowledgeable personalities. Bank's current policies, procedures and practices have been critically examined to ensure that these do not impede preparation and lending for rural development projects by the Bank. Fresh guidelines for agricultural work by Economic and Sector Missions lay special emphasis on the examination and analysis of issues which would facilitate identification and formulation of rural development projects. A separate Rural Development Division has been set up in the Agriculture Department. One of the responsibilities of the Division is to collect and collate information on rural development projects identified and implemented in the various regions of the world by the Bank.

8. Bank policy paper on Rural Development was prepared and recently approved by the Board of Directors. The paper focuses on the objectives
for Rural Development and suggests a set of actions which could be taken by the Bank in fulfillment of the objectives. "The central concept of rural development" in this paper is "of a process through which rural poverty is alleviated by sustained increase in the productivity and incomes of rural farmers and households." Some of the highlights of the suggestions are:

(a) Increased emphasis on project identification;
(b) Special attention to planning, monitoring and evaluation;
(c) Research to provide more adequate understanding of the problems of ameliorating rural poverty;
(d) Bank economic and sector missions to identify target groups of rural poor and constraints inhibiting amelioration of rural poverty;
(e) Increased training of indigenous personnel;
(f) Balance between productive and welfare components;
(g) Local participation in decision-making; and,
(h) Incorporation of rural works for landless.

9. Policy papers on Land Reform and Credit were prepared and approved.

The three policy papers on Rural Development, Land Reform and Credit
provide the basis of Rural Development activities in the Bank in the coming years. Projected Bank lending for Agriculture and Rural Development ending FY75-79 is about US$7 billion for projects with total cost estimated at US$15 billion. Half is expected to be spent on rural development.
March 17, 1975

Mr. David E. Phillippe
President
International Self-Help Partners, Inc.
1801 Avenue of the Stars
Suite 633
"Century City" Los Angeles
California, 90067

Dear Mr. Phillippe:

I have been asked to respond to your letter of March 10, 1975 addressed to Mr. McNamara concerning the Los Angeles Times report on the Bank's plan to increase lending for rural development. The Times was reporting on the Bank's Rural Development Sector Policy Paper released last Sunday.

The questions you raise do point to some of the real difficulties of implementing rural development projects: poor motivation among beneficiaries, corruption, cultural resistance to economic change, and so on. And I would agree with your claim that the solutions to many of these problems are available. Judging from the literature you sent - on your Foundation's self-help package of animal-powered equipment, seed and fertilizer - I would also agree that you have one of the solutions. A self-help package costing only $25 per farmer is a splendid way of reaching the largest number of beneficiaries with a productive investment, and of keeping them self-reliant.

Some of the Bank's "new-style" projects are oriented in much the same way as yours is. For example, see the discussion of these projects on pages 60-62 of the enclosed copy of the Bank's Rural Development Sector Policy paper. In addition, though, to lending for agricultural production by small farmers, the Bank is also concerned with enlarging the infrastructure of rural economies to complement credit schemes for farmers; that is, with marketing, transport and formal education. Hence, we lend also for public sector investments in rural areas.

Since you are primarily concerned with private sector investments, perhaps you would be interested in the activities of the International Finance Corporation, which is an affiliate of the World Bank. Its charter is to promote the growth of the private sector in developing countries. I have enclosed a pamphlet explaining its operations.
Finally, I was struck by the essential simplicity of the (mainly) bullock-drawn equipment you are sponsoring in India. In case you are not familiar with the activities of the International Rice Research Institute (IRRI), you may be interested in its research and outreach program in agricultural machinery. It has largely ignored bullock-drawn equipment, unfortunately, but it has produced some hand-operated planting and weeding equipment, as well as other simple machines. Its address is: Post Office Box 933, Manila, Philippines.

Yours sincerely,

G.F. Darnell
Senior Adviser
Agriculture & Rural Development Department

Enc:

cc: Mr. W. Baum, Mr. S. Burmester, Mr. M.L. Hoffmann
PDuane:mt
1. In reviewing the above report, the reader has to decide at the outset whether or not the inferences and conclusions drawn and recommendations made in the report are reasonably valid despite the fact that they are based essentially on farm survey results the reliability of which is acknowledged by the report (pp 31-32) to be reduced by such important factors as non-random selection procedures, inadequate testing of questionnaires, ambiguous questions, imperfect identification of the control group, inaccuracies arising from the need for respondents to recall benchmark and other data over the previous five years, and use of observations spread five years apart to determine secular changes. While acknowledging the reduced reliability and correctly pointing out that the survey results can never be anything more than suggestive and that the inferences are non-vigorous and non-pretentious, nevertheless conclusions are drawn and recommendations made which are presumed to be sufficiently valid that they can be broadly applied. This validity issue is very important since the usefulness of the whole evaluations exercise hinges on it. It should also be pointed out that the evaluation study was restricted to agricultural credit projects (lending essentially for livestock and tractors) in five countries.

2. Bearing the above in mind, the following recommendations of the report are of particular interest to me. These recommendations are that the Bank should:

(a) Give more emphasis to technical assistance, including institution building. This follows from the report's contention that the credit projects surveyed have not demonstrated a capacity for promoting increases in productivity, and this, in turn, was inferred from the farm survey results which showed that the principal source of growth in farm production was not due to improvements in the productivity of land and animal already in production as had been envisaged by the appraisal mission, but rather to expansion of cultivated areas and livestock herd. Future projects should accordingly ensure technical assistance adequate to enable borrowers to reach productivity levels projected in the project design.

(b) Assist credit agencies in developing a competence for monitoring and evaluating project impact. The report found this lack of competence to be a major organizational deficiency in the credit agencies surveyed. Acknowledging that this is a costly task and one which the developing country may at first view to be of little value the report suggests that the Bank may have either to finance part of the costs or insist on the matter as a condition precedent to approving a loan. It should be pointed out that in our more recent projects, we have required the establishment of a mechanism to perform this task though our failure to provide the necessary detail guidelines may have accounted for the continuing weakness in this matter among our borrowing credit agencies.
(c) Require that supervision missions devote much more time to monitoring farm developments (physical progress), and not focus, as at present, almost exclusively on easily obtained sets of information, such as disbursements, repayments and other financial matters. In their monitoring work, supervision missions should test the assumptions of the farm models (developed by appraisal missions) against actual results, the main purpose of which is to adjust or cut off undesirable trends or developments if any. This is easier said than done and the implications for supervision mission staffing in terms of numbers, composition and costs will be significant. Though in principle this type of monitoring (involving a close and continuing scrutinizing and report of on-farm development and progress) is desirable, it would not be a practical undertaking for supervisions missions. I believe this function should instead and more appropriately be assumed by the credit agencies concerned.

3. All the above three recommendations are focused on the need for the Bank to pay more emphasis on project implementation. I believe whatever the report recommends that the Bank staff should do will be of little avail without substantial improvements on the technical and management capability of the credit and other implementing agencies concerned, because in the final analysis, it is these agencies which will determine the success or otherwise of project implementation as measured in the report. Thus, if projects are to be implemented in the manner prescribed in the report, institution building would have to feature prominently in all future projects.

4. I seriously doubt that there are many, especially those of us in the Bank working on this subject (agricultural credit), who would subscribe to the unqualified assumption that there is a direct, causal relation between an increase in the supply of credit and on-farm capital formation and technical change (p.3). A more commonly held view of the role of agricultural credit is that given by the report and attributed to the thinking of the top management of the Bank that, and I quote, ".... capital formation on individual farms, even large commercial farms, cannot gather momentum without the support of credit services and, in particular, institutional credit services." (p.12). The key words here are greater momentum, and support.
Mr. W.H. Spall

March 10, 1975

D.W. Jeffries

Draft Report on Agricultural Credit Programs

1. This is an interesting report, especially for someone like myself, new to agricultural credit operations, although it suffers from much repetition, a lot of turgid writing and jargon. I imagine the report will get rather wide circulation and prove controversial, so it is probably worth studying, at least the last 110 pages, from page 334 on, with close attention to the final section, Implications and Suggestions, pp 431-444. Unfortunately, the four cases chosen for OED's review involved larger and more prosperous farmers than we now try to focus on, although many of the observations made are probably valid for current operations. I should like to see a similar study made of a typical Indian agricultural credit operation and also one of an integrated rural development project with a credit component. The results of such studies might make some of the OED's implications and suggestions easier to weigh in terms of the realities of Bank Group operations. As it is, one isn't sure of the current validity of much that is observed, quite apart from any questioning of the methods used in OED's analysis or data base, which I am in no position to question.

2. The OED report recognizes the cost and manpower limitations to our being able to carry out its recommendations but I don't think its authors really appreciate them fully. For example, does OED really expect that one additional economist in each agricultural credit division could do all that is listed for him to do (p.436). Even one function out of the five, i.e., to consult with all supervision teams assigned to credit projects before their missions in order to plan a brief analysis and write up of impact issues and to review their final reports, would be difficult for one person to handle properly.

3. The idea of closer involvement of program staff in project work also has a certain appeal but I find the alternatives proposed in the report impractical. If loan officers are "assigned to a larger role in developing the project, including formulation and sensitivity analysis of the farm models and routine participation in appraisal teams investigating the validity (and feasibility) of the draft set of assumptions" and if the program office is "responsible for a checking mechanism that verified the internal integrity and logic of the appraisal reports developed by projects staff" (page 424) where would program staff get the time? And what about the question of accountability and responsibility? Would there be more careful checking than if projects staff alone felt the responsibility rather than sharing it? Would there be endless wrangling over assumptions, methods and whether the text of the report is justified by the model? If, as alleged, the Bank's technical staff is too much pinned down to jobs of loan preparation, inspection and verification with little time for "mid-project technical advisory work and review" perhaps a whole new structure of our appraisal and supervision missions and to our report review and checking procedure is warranted. Perhaps the form should be a merging of programs and projects work, or a shifting of staff from programs to projects but surely not a system with cross departmental responsibility for project reports, appraisal or supervision. I do believe that many loan officers
and program economists could take on many of the appraisal and supervision functions now part of the technical expert's load, leaving the technical experts to concentrate on project field developments, but if program staff are to do so they should be shifted to projects staff.

4. The OED report is very much concerned to catch the errors it has found in reports which have made their way to the Board, errors which were attributed to haste and inadequate manpower during the period of rapid expansion of agricultural credit operations under review. As a matter of good management of scarce resources, isn't the occasional error, even the occasional serious error, a reasonable price to pay? I would argue that we are already too preoccupied with catching errors and with checking reports which go up the line. That doesn't mean that we shouldn't check assumptions, nor does it refute the criticism of our operations that we are too much concerned with meeting disbursement targets and with the financial viability of our credit agencies and not enough concerned with the substance of what the programs financed are trying to accomplish at the farmer level. But these are matters better dealt with by institution building, institutions in the field not reorganization of the Bank procedures.

5. We should be aware of the implications of a number of observations which appear to question the need for independent agricultural credit divisions. "Credit projects labelled as such should begin to disappear" (p.426) as credit is subordinated to and at the service of new technologies, in programs which better represent the projects the Bank can expect to be asked and ought to seek to finance in the future (p.425). The combination of DFC and agricultural credit in one division is also noted with some concern as indicative of our preoccupation with financial viability of credit agencies at the expense of adequate attention to farm level productivity goals. (p.405) But if institution building has any merit and it would seem to me to be the means of providing many of the answers sought by this exercise—then having separate divisions for agricultural credit well may be justified.

6. If this OED review's recommendations are accepted, in time we will have to provide each project with a system to monitor performance, especially the farm results. The OED report claims that present supervision is limited too much to appraisal of the financial intermediary and to disbursements being up to the appraisal rate. I think this is a valid criticism of our current operations and perhaps each project should contain some provision for continuous follow-up. However, this might only be practical with the integrated rural development approach, with credit playing a subsidiary role. I don't think the cost of the monitoring, though recognized as an additional burden for the Bank and everyone else involved, is dealt with adequately in the OED report.

7. Another element of appraisals which OED would like to see given greater emphasis is the financial rate of return to the equity investment of the farmer; this figure may show up high profits based on cheap credit provided by the Bank Group. I should have thought this was included already where it could be done reasonably. In many cases, I suppose that it would be very difficult to determine what the typical farmer's equity investment would be. Isn't this one aspect that
the borrowing country should be more concerned about than us? Shouldn't we like to see a high return on the farmer's equity investment especially if he is one of what we now consider the more deserving poor, at the lower end of the scale?

8. The problem of lack of continuity of mission personnel was noted and attributed to the rapid growth of agricultural credit operations during the period under review. I don't think we should count on there being any greater continuity in future. One of the operational changes which could be considered might be less frequent supervision missions, but with an effort made to schedule greater continuity of personnel, and this might be feasible if monitoring units were set up locally to follow projects and if greater use were made of resident mission staff for interim supervision.

9. The OED report argues that all rural development projects need a much higher input of Bank time and attention to supervision relative to appraisal and other phases of the planning period. I agree - we all agree. It's an old story but it never seems to result in any shift of emphasis.

10. The logical transition in the first two rather fundamental paragraphs of the Implications and Suggestions section (pp 414-415) leaves something to be desired. While admitting in the first paragraph that the Bank achieved the goals it had at the time of the operations reviewed—increases in capital formation and production and setting up effective credit delivery systems—the report goes on to say that with the new emphasis on small farmers, the Bank will have to be more concerned with on-farm productive capacity, development of efficient rural financial markets and social equity. True. It goes on to argue that since participant farmer behavior is not well known and since large farmers have consistently abandoned intensification strategies, small farmers may also. Not so true. Finally, it says that "there is nothing in the experience of the last ten years to give the Bank any confidence that without the increase in project control—better preparation, monitoring and feedback—the small farmer projects will ultimately turn out all right. The record in fact suggests that many will not." I disagree with that inference. The record in fact could be interpreted to argue that farmers act logically and with considerable self-interest. While it may have been in the interest of larger farmers to extend rather than become more intensive, the small farmer may not have that option and will do what we should like because it would be in his own interest, not because of our or the government's greater intervention. That isn't to say that we shouldn't intervene more in terms of greater technical assistance, only that the report's argument doesn't follow from the experience referred to. In fact, I agree with OED's conclusion that more ought to be invested by us in project preparation and research which would be amply repaid by having higher yielding projects.

11. The OED report claims that farm behavior is out of control and that when project funds are shifted within a project assumptions made about the differential impact were not tested. The implication is that we should justify any shifts in funds within a project with an economic and financial reappraisal
and not just use the expediency of rapid disbursement. I doubt that we have the manpower and time to do such justifications. If we required such re-
appraisals I'm afraid the result would be greater rigidity in allocation of the proceeds of credits with cancellations being preferred to new justifications, rigorously tested.

12. Greater attention will have to be paid to farm models which represent the average farmer, according to the OED report. Though illustrative, the models must be representative and thereby become tools for supervision as well as appraisal. It would be difficult to know if our models are really representative unless we have done a lot more field work than is likely to be possible. And even if we use the government to provide us with representative models, can we trust that they really are?

13. The OED report notes concerning rural capital market development that private bank participation as intermediaries in rediscounting operations seem to serve as effective channels to the large farmer clientele but they are not attracted to put their own funds voluntarily into the long-term land program. Neither are the farmer clients attracted to make deposits at either private or public rural credit branches. The report points out that the Bank was not using the projects to encourage and influence the accumulation as well as allocation of rural resources. (p.382) On the other hand, the report apparently recognizes rather basic limitations in our ability through projects to do anything about encouraging either long-term lending or rural deposit without an appropriate environment. On page 366 the report notes concerning getting private intermediary banks to participate in credit schemes: "Financial innovations are needed to reduce lending costs and financial policies have to be modified, to eliminate distortions in relative profitabilities. Appraisal missions have avoided these issues." It goes on to note that little has been done to try to change the interest rate and inflation policies that affect the success of the projects. Surely there is little that the Bank can do through individual projects but does this criticism take adequately into account the economic sector work done on our countries? Surely in some countries the Bank and the IMF do try to induce changes in the financial system. If we haven't its probably because we haven't gotten the leverage. And even if we have, we can't include everything in a project appraisal report.

14. On substitution (pp.374-375) the report concludes that the Bank should face up to the extent of substitution by Bank funds of other funds that would have been used to make the same investments (10 to 50%) and make more of the advantages afforded by this substitution, the leverage effects government obtains on farmer investment behavior (improved technologies) and the improvement of financial markets. We all agree but the Bank faces the same limitations here as noted in the paragraph above.

15. The OED study finds the two major deficiencies in the credit agencies we finance to be lack of competence for monitoring and evaluating project impact and lack of capability for providing or assuring technical assistance. The former is termed an essential component of farm development programs. Do we agree? On technical assistance, one of OED's main criticisms of the way we
operate is that too many choice and scarce agricultural experts are tied down to loan processing and not available to give technical assistance, the resulting recommendation being that most technical assistance will need to come from outside the credit agencies. I wonder if OED fully appreciates how much we are still struggling just to make our credit agencies viable. I'm not sure how rapidly we could move toward a more complete package of farm development, except on paper, with most of our credit intermediaries.

16. I trust that some cattle expert will focus on the comments about extension services for cattle ranches (pp. 386-388). I'm not sure that a case is really made for not trying to devote more resources to forcing the pace of intensification even for those ranchers who can continue to extend their operations. The OED report maintains that "the cost of the research and extension activity that is required to lift the ranchers, including those in Uruguay, to levels of efficiency comparable to those in developed countries is well out of reach of the programs as presently designed and financed." That may be so but it doesn't follow that it would not be economically justified to try.

17. Page 386. The level of administrative costs reviewed, 3% or 4%, are held to be modest by LIC standards and for credit programs involving many small farmers. Seems a reasonable statement, but I don't know the facts here.

18. Page 395. While I agree with the thesis of paragraph 7 that project field developments are largely out of the view of the Bank's staff, I think the example given by way of illustration is poorly chosen. The treatment of the section quoted from the latest Mexican supervision report is tedious at best.

19. Pages 396-397. Paragraph 8 is really quite an indictment of our project approach to development finance.

20. Paragraph 10. Was the Bank indifferent to the progress in packaging of tractor power and tubewell water and lacking information about it, as claimed?

21. Paragraph 11. We are supposed to consider farm level models as "normative statements of intentions" and the assumptions upon which they are based as points of reference for evaluation in project supervision. I don't think we have been doing that. Is this how models are now treated? If we are to do so seriously, we'll need a lot more staff and time.
March 10, 1975

Professor Gwin E. Jones
Chairman, European Society for
Rural Sociology
The University of Reading
London Road
Reading, RG 1 5 AQ
England

Dear Gwin:

Please find enclosed the Rural Development Policy Paper which was just published by the IBRD. The guidelines formulated in this Policy Paper would affect the rural development in many countries throughout the world and I think that the paper is of high sociological interest.

I do hope that you received many comments on your last letter-circular in our journal.

Looking forward to hearing from you.

Cordially yours,

Michael Cernea
March 10, 1975

Professor Alvin R. Bertrand
Department of Rural Sociology
Louisiana State University
Baton Rouge, Louisiana

Dear Alvin:

As I promised you during our last talk, please find enclosed the Rural Development Policy Paper which was just issued by the IBRD. I find that the analysis contained in the paper and the institutional mechanisms of development on which it relies for future project work are of very high sociological relevance. I would be very interested in knowing your personal feelings about the guidelines formulated in this paper, which would affect rural development processes in many countries.

I hope to remain in touch with you.

With my best regards,

Michael Cernea

MC:cr

Professor Michael Cernea
IBRD - Room D-843
1818 H Street, N.W.
Washington, D.C. 20433
March 10, 1975

Professor John Cole
Department of Anthropology
University of Massachusetts
Amhurst, Massachusetts

Dear John:

As I promised you during our last talk, please find enclosed the Rural Development Policy Paper which was just issued by the IBRD. I find that the analysis contained in the paper and the institutional mechanisms of development on which it relies for future project work are of very high sociological relevance. I would be very interested in knowing your personal feelings about the guidelines formulated in this paper, which would affect rural development processes in many countries.

I hope to remain in touch with you.

With my best regards,

Michael Carnea

MC:cr
Professor Michael Carnea
IBRD - Room D-643
1818 H Street, N.W.
Washington, D.C. 20433
March 10, 1975

Dr. Paul Muller  
Managing Editor, Sociologia Ruralis  
Konstans University  
Konstans, Federal Republic of Germany

Dear Dr. Muller:

Please find enclosed the IBRD Policy Paper on Rural Development, which I promised you in my last letter.

This Policy Paper was just published and I think that it is of high interest for any sociological approach to the rural sector in developing countries. In particular, the problems involved in the definition of rural poor target populations and in the analysis of the institutional aspects of planned development have broad sociological implications and connotations. I am sure that the guidelines formulated in this Policy Paper will directly affect rural development processes in many countries throughout the world.

Do you think that an analysis of past and current experiences with rural development projects, or of policy projections for the future, would be of interest for "Sociologia Ruralis"? There are many people here from whom we could ask a paper for the journal.

With my best regards,

Sincerely,

Mihail Cernea
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<td>Mr. H. Adler</td>
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FROM: Incoming Mail Unit, Room F-126, Extension 2023
March 10, 1975

Mr. Robert S. McNamara, President
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433

Dear Mr. McNamara:

I found the attached article concerning your new emphasis on assistance to the small impoverished farmers, farsighted indeed. You are to be commended.

But, a question. Don't you have an enormous logistical problem in matching up and filling the specific need to the farmer in need? How do you plan to organize enough people who are motivated by concern for a fellowman, rather than motivated by profit? How do you get around the graft and corruption problem which allows only a small amount of the benefit to eventually trickle down to that small farmer? How do you get around the cultural problem so that the more advanced technical ideas of more advanced nations can be injected into a less advanced society and be widely accepted? How do you structure a product oriented/distribution/educational/credit system and make it work? How do you do all this and maintain a human person to person touch?

We raise the questions, not because we feel that there are no answers, quite the contrary.....the components of the answers are waiting to be put together and be activated. If you've got the money, and will allow enough people to get into the act, citizens such as ourselves, and many more like us, can get the job done.

Sincerely yours,

David E. Phillippe
President

Encl.
DOUBLING LOANS FOR RURAL PROJECTS

World Bank to Aid Poor Farmers

BY DAN MORGAN
The Washington Post

WASHINGTON—The World Bank has announced that it will double its lending for rural development in the next five years and shift the emphasis of its assistance in poorer countries to small, impoverished farmers, sometimes called the world's "marginal men."

The five-year plan bears the unmistakable imprint of President Robert S. McNamara, who has been guiding the bank away from its priority of aiding industrial development and big agricultural projects such as irrigation.

Between now and 1979, about half of all the bank's financing in the agricultural sector will go to "new style projects"—ones which provide a comprehensive program of credits, seeds, fertilizer, water, as well as health service and basic education for the small farmers who cultivate 40% of the land in developing countries.

More than 80% of the poorest people in developing countries live in rural areas.

The bank's agriculture and rural development program would reach a total rural population of 100 million, of whom 60 million would be in the poverty group.

Bank officials said last week that the net effect of the program could be to shift some wealth and political muscle to segments of populations in poor countries which often have been without fear.

Montague Yudelman, director of the bank's agriculture and rural development department, said, "Many governments are aware of having large pockets of rural poverty, and are concerned with the rural development issue."

He said the bank did not want to "impose its own views on anybody."

One bank official said that while governments know rural development can shift power, they also know that not shifting such power can also be "explosive."

The bank's policy paper on agriculture, released Sunday, conceded that the cost of providing credit to small farmers can be substantially higher than it is to larger ones.

However, it noted that small farmers are often more efficient, and bank officials said that they are often better credit risks than large landlords who have been known to use their political influence to avoid paying debts.

Bank sources said there had been considerable debate in development circles about the approach favored by McNamara. Some argued that the banks would continue to invest in projects offering the best hope for increased food output because of the threat of widening food deficits in poor nations.

But the policy paper argues that such an approach would not necessarily reach the masses of rural poor people.

Between fiscal years 1975 and 1979, the bank plans to spend a total of $7.2 billion for agriculture and rural development, a sharp increase over previous years.

Of that money, some $3 billion will be for projects to benefit small farmers. This kind of lending will double by fiscal year 1979, reaching $1 billion a year by then.
Would you let it happen to your daughter or son? 25 MILLION people starving to death in the next 12 months! Would you join me to do something about the disaster?

INTERNATIONAL SELF-HELP PARTNERS, INC., (a non-profit tax exempt foundation), is a group of people with a sound plan of action. For only $25.00 we will put into the hands of an Asian farmer a SELF-HELP PACKAGE. The "Package" consists of a small non-power piece of farm equipment, some hybrid seed and a little fertilizer. The plan helps the existing small farmer grow more food on his one or two acre farm to feed more people in his own community.

The Package is a loan to the farmer, and he will repay its value (average $25.00), following his first successful crop year. This is the American free enterprise way. The repayment of the loan makes it possible to place another Self-Help Package in the hands of another farmer. Your hard earned donation is carefully conserved to help farmer after farmer, year after year.

This year help a farmer to help himself. $25.00 helps one farmer; $50.00 helps 2 farmers; $100.00 helps 4 farmers; $500.00 puts 20 farmers to work more effectively than they are now working.

Send your tax deductible contributions NOW to:

INTERNATIONAL SELF-HELP PARTNERS, INC.
1801 Avenue of the Stars, Suite 633
Los Angeles, California 90067

Sincerely yours,

David E. Phillippe
Partner

PS: In helping others you help yourself, because what causes hunger pains in the developing nations, also causes higher prices at your super-market.

Give a man bread, and tomorrow he will come back hungry. Provide him a plow, and he is equipped to feed his family ...... and to help his neighbor.

International Self-Help Partners, Inc. is helping to revitalize an Indian factory that produces these depicted tools.
Only $25.00 will provide an Asian farmer with a self help package, hand tools, hybrid seeds, fertilizer and animal drawn machinery. How many farmers will you help?

Make your check payable to:

INTERNATIONAL SELF-HELP PARTNERS, INC.
1801 Avenue of the Stars
Suite 633
Los Angeles, California 90069

Free enterprise will save a manufacturing plant and enable Asians to produce farm implements needed by small Asian farmers.
**SELF-HELP PACKAGES IN SERVICE**

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The above chart demonstrates the results achieved by just one Partner who systematically sponsors the placement into service of just one Self-Help Package per month.

The Assumptions are:

1. One Package is placed into service each month or 12 the first year. Twelve Packages are placed each succeeding year. The recipient farmer signs a contract agreeing to repay the manufacturer's suggested list price for the Package plus interest within one growing year with repayment to come from proceeds of sale of his increased production.

2. Another Package is shipped to another farm family automatically with receipt of repayment of the previous package.

3. The chart assumes a bad debt loss of 10% for each succeeding year. It is possible that this loss factor may be reduced by the interest charged on the loan.

4. One Partner participating 10 years has put 496 people to work! What better memorial to your life's achievements.
<table>
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<th>PARTNER</th>
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<td>Dulal &amp; Rose Borpujari</td>
<td>General Manager, Pan-Asian Trust, Calcutta, India.</td>
<td>Partners (earned)</td>
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<td>W. Ellsworth &amp; Jo Culver</td>
<td>Executive Director &amp; President Involvement Inc., Washington, D.C.</td>
<td>Senior Partners (earned)</td>
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<tr>
<td>Ramona Ferdon</td>
<td>Representative, Blue Cross of Southern California, Bakersfield</td>
<td>Partner</td>
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<tr>
<td>Robert W. Nave</td>
<td>President, Pan-Asian Trust. President, Soya Production and Research Association. Founder, Commission of Technical Education for Methodist Church of India. Director, Nave Technical Institute, (formerly Lodhipur Institute) Founder, SKIP (Skills for Progress)</td>
<td>Partner (earned)</td>
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<tr>
<td>David E. Philippe</td>
<td>Management Trend Company</td>
<td>Sr. Life Partner</td>
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<td>Dora Dene Phillippe</td>
<td>Sect/Treas. Int. Self-Help Partners</td>
<td>Sr. Life Partner</td>
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<tr>
<td>Dr. Milo &amp; Velma Rediger</td>
<td>President, Taylor University, Upland, Indiana</td>
<td>Partner</td>
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<tr>
<td>George D. &amp; Mary Swanson</td>
<td>Project Director - Africa, India Institute for International Development, Inc., Washington, D.C.</td>
<td>Partner</td>
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<td>Robert L. &amp; Val Toms</td>
<td>Caldwell &amp; Toms, Attorneys at Law. Immediate past Corporations Comm. of the State of California, Los Angeles</td>
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<td>Dr. Larry &amp; Lorraine Ward</td>
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<tr>
<td>William K. and Dorothy Whitcomb</td>
<td>State Director, CROP, a program of Church World Service.</td>
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SELLING FREE ENTERPRISE IN ASIA

A Plan of Action to Help People Help Themselves

Geneva - Up to 75,000,000 persons could starve to death within the coming year, a senior official of the World Council of Churches warned here Friday...
The Los Angeles Times 6/30/74.

Before you quit work today 30,000 people will have died of malnutrition and starvation...source United Nations.

Even if you and I could keep alive all of today's 30,000, we would have yesterday's 30,000 to think about...and tomorrow's! It is obvious SOMETHING MUST BE DONE. Is it not inconceivable that a nation that has mobilized its technology and resources to place men on the moon has not structured a concerted effort to eradicate the food crisis right here on terra firma? It is obvious that industry must accept the immediate challenge to find simple and practical ways to significantly increase food production on the level of the individual farmer. Technology and capital in very small increments must be injected into emerging economies to increase agricultural production capability at the scene of the need.

Forming a Plan

So why don't you and I sit down right now and structure a solution to the problem!
We should consider the fact that 62% of the farms in Asia are 5 acres or much less; many only 1/3 or 1/2 acre. Only 1% of the farms are 50 acres or more.
These small farms are largely family owned or sharecropped, so there is no shortage of labor. With an average annual income of $100 or less, our farmer isn't going to be able to buy gasoline at prices ranging up to $2.00 per gallon. So what our farmer needs is simple non-power farm equipment; new varieties of high yielding seed; some fertilizer and a little education on how to improve his farming methods. He needs credit in very small increments commensurate with his income level. Then we should structure a delivery system to put all the needed components within easy reach.

Sounds simple enough! But if you asked me to do it, or I asked you to do it, we would each say "how can one person make any kind of impact on such a global problem".

People to Implement the Plan

That's where International Self-Help Partners, Inc., a non-profit corporation, comes in. International Self-Help Partners is a group of concerned individuals, like you and me, who have agreed among themselves to tackle a problem and rally a concerted effort as a group. Each Partner utilizes his own creative and professional skills, but all direct their financial resources and efforts towards a common objective...the creation of an enlarged food production capability around the world.

Here's how it works. International Self-Help Partners is in the process of building and equipping a factory in Asia. The factory will build a line of very simple hand operated and animal drawn farm equipment. The line includes hand plows and several models of animal drawn plows, wheel hoe, harrows,
multi-purpose seed drills, ridger, cultivator and threshing machines of various sizes, as well as a low lift water pump for shallow irrigation service. Would you believe an "improved" animal yoke? All the items are designed for the farmer of 5 acres or less and built at the local level with low cost local labor.

With a factory in operation, the next step is a distribution network. Dealers will be franchised for defined sales territories. Qualifications must include not only basic management skills but also a keen humanitarian desire to lift the poverty level of his community. The dealer's showroom is not only a place to sell farm equipment, but a programmed educational center. Improved farming techniques, birth control and family planning, and the spiritual elements which allow a man to believe in his individual worth as a human being, are all taught with the use of carefully programmed audio-visual aids. Without becoming a highly educated technician himself, the dealer and his family can bring to his own community the seeds of an improved, more rewarding way of life.

As an aside, the availability of inexpensive farm equipment is a boon to birth control and family planning efforts. With equipment, the motivation becomes fewer mouths to feed rather than more kids to work the land and take care of our old age. Large families become less of an asset.

A Unique Approach to Credit

Financial participation, a tax deductible donation of the Partners, is not given away at the Asian level. We give away nothing but opportunity. Rather, the funds are channeled into SELF-HELP CREDIT SERVICE. Self-Help Credit
Service is a fund available to dealers for the purpose of financing SELF-HELP PACKAGES. The Package consists of a basic small piece of farm equipment which the farmer and dealer together decide is needed, some hybrid seed grain, a small amount of fertilizer, and a simple farm manual. The value of the Package may average in the area of $25.00. A conditional sales contract is signed by the farmer, pledging repayment of the loan after the first successful crop year.

Small sums of capital are leveraged through a large number of small farmers to produce a significant percentage of increased food production from each. Each farmer happily enjoys the fruits of his increased productivity and retains his individual dignity as a human being. The dealer supports himself through his sales and is available as a continuing source of information at the community level.

Creating the Perpetually Revolving Fund

The capital, when repaid through this system of credit, becomes a REVOLVING FUND, PERPETUALLY IN USE and RE-USE. A new Self-Help Package is released to service, upon receipt of repayment, to help the second, third and fourth farmer into more effective production.

Our Part in the Plan

What can you and I do? Get involved as a Partner! Consider a famine surcharge built into the retail price of your products... say 1/10 of a cent per gallon at the gas pump or 1/5 of a cent on a tube of tooth paste. That could
have some interesting advertising value as well! Does your company have a charitable foundation? Start a Partners Club among your concerned plant employees. Take the Self-Help story to your club, church, or temple. By now you are way ahead of me with your own creative ideas.

One Partner consistently financing just $25 to one new farmer each month will put about 500 farmers into more effective production over a 10 year period. With modest sums and a large number of people with a common goal, we can reorder our social priorities, including a rational plan, to attack the globe's most urgent problem.

It will be interesting to see what you and I can put together... as free citizens... voluntarily... without government duress. The United Nations estimates that 2 billion people exist at the poverty level, so our effort must be approached with patient systematic perseverance. Perhaps, in time, what we do may even be a leveraging factor to fuel global prosperity.

Preliminary Phase

Where does the project stand now? A factory site has been secured in the heart of Calcutta. The machinery, equipment, jigs, dies, etc., for production, have been purchased. A competent on site management team has been formed. The corporate structure is ready to go.
First Phase

What does the project currently need? Working capital to put the factory into operation, about $100,000. A kickoff of the Self-Help Credit Service fund so we can immediately select competent dealers, rent showrooms and floor equipment for them, as well as finance equipment to farmers, about $1,050,000. Domestic budget for 1974-75, about $89,000.

Second Phase

Where does the project go from here? When the first factory/dealer/education/finance operation is running successfully, let's repeat the process. Many small factories, each calibrated to profitably serve a measured group of dealers in a surrounding agricultural market, simplifies deliveries and avoids massive labor problems. We will want to build our financial/management capability and be ready to move ahead with factory two, three and four. Freedom grows best with an economic basis.

The principals of free enterprise live on when we exercise them through new applications. If we expect the concepts of individual freedom with responsibility to grow, are we, as individuals and as a nation prepared to pay the tuition? International Self-Help Partners is structured so that each Partner, whether President of his company or an on-line employee, can express leadership to perpetuate freedom to the extent of his capability.
In 1776 our forefathers launched a country steeped in the lofty ideals of individual freedom. The days approaching 1976 seem an appropriate time to launch a "Rebirth of Freedom".

David E. Phillippe

President and Senior Life Partner

International Self-Help Partners, Inc.
David E. Phillippe is owner of Management Trend Company, a Century City, California based investment counseling and real estate brokerage firm. Many of the concepts expressed in his article were impressions carried back from childhood days in Canton, China and Hong Kong where he spent 13 years. Two of these years were spent in a Japanese concentration camp.

International Self-Help Partners, Inc., 1801 Avenue of the Stars, Suite 633, Los Angeles, (Century City), California 90067, is a non-profit tax exempt charitable corporation. Partner's participation, whether in the form of cash, securities, real estate, machinery or equipment, is fully tax deductible to the extent applicable under I.R.S. codes.

**********

Give a man bread, and tomorrow he will come back hungry. Provide him a plow, and he is equipped to feed his family . . . . and to help his neighbor.
GIVE A MAN BREAD, AND TOMORROW HE WILL COME BACK HUNGRY. PROVIDE HIM A PLOW, AND HE IS EQUIPPED TO FEED HIS FAMILY.... AND TO HELP HIS NEIGHBOR.

SELF-HELP IS THE ANSWER.

NOTE: Box insert into article.
**Record Removal Notice**

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<td>Board Record</td>
<td>Bank Administration and Policy - Agriculture and Rural Development - General 1975 / 1977 Correspondence - Volume 1</td>
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**Correspondents / Participants**

**Subject / Title**
Summary of Discussion at Meetings of the Executive Directors of the Bank and IDA, February 4 and 11, 1975

**Exception(s)**

**Additional Comments**
Declassification review of this record may be initiated upon request.

The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group.

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<td>Ann May</td>
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</table>
I have talked today with Mark Leiserson and Leif Christoffersen in Rome. A previous draft of the report was seen and commented on by Mr. Leiserson. He received the final report at the same time it was sent to you. He has cleared the report. He believes that subsequent reports should deal more substantively with the future plans for country concentration programs, but that this could best be done after the return of the present mission to the Philippines and Christoffersen's mission to Tanzania. Mr. Christoffersen also advised that Mr. Benjenk had cleared the sections on Iran.
March 4, 1975

Mr. Edwin M. Martin

Michael L. Hoffman

ILO - Training in the Agricultural Sector

On one of my recent trips to Geneva, I met with Mr. Foulds, Chief of Vocational Training, and Mr. Walter Adams and a Mr. Zaoraga(?) from the Vocational Guidance and Training Section, to inquire about ILO's activities and interests in the multiple problems of training people for rural development. It turned out to be a good time to inquire. I explained that I was inquiring on your behalf as Chairman of the CGFPI and told them something of our plans for the organization and functioning of that Group.

ILO is actually carrying out quite a variety of projects in this general field including training components of some Bank projects. I attach a list of active projects as of the end of last year. However, Foulds said ILO hasn't got a training policy or program for the rural sector and is just in the process of formulating one. They are working on a paper which they will be glad to send us in due course. They foresee two main kinds of ILO inputs: (a) counselling on adaptation and methods, and (b) training itself, which they envisage as including training for services supporting the agricultural sector. In fact, they consider this the area in which ILO can probably have the greatest impact. They do not include training of extension agents. They do include maintenance and repair of machinery, rural water supply systems, pumps, vehicles, storage facilities and rodent and insect control. The approach will be to try to build on existing facilities, schools, vocational training kenters and the like, to avoid introducing systems that would involve heavy capital investments. They are experimenting with mobile units, particularly in Iran.

There is an FAO/ILO/Durcasco committee on rural education and training. The Bank is apparently preparing a paper on Bank activities in training for rural development which we will submit to this joint committee via the Bank/FAO Cooperative Program. ILO hopes the Bank will become a member of that committee.

Clearly, your Secretariat will want to keep in touch with ILO on all this.

ML Hoffman/pnn
1. The Conference, held at FAO headquarters in Rome, brought together a “Panel of Experts” to discuss the impact of farm mechanization on production and employment in developing countries. We represented the Bank which had been invited to send several participants and observers (your terms of reference of January 17, 1975). The Conference was organized jointly by the FAO and OECD, but the main initiative came from FAO’s agricultural engineering service which provided the secretariat. The Panel’s meetings were divided into four sessions, in which it considered 17 papers on various aspects of farm mechanization, statements by 4 rapporteurs, reports of discussion by chairman of sessions and a number of other addresses (see agenda in Annex 1).

2. The Secretariat expressed the purpose of convening the Panel in terms of short- and long-term objectives. In the short-term, its purpose was to seek advice on how mechanization policies should be pursued, to decide what gaps should be filled by research and by future Panel sessions, and to define FAO’s policy and role with respect to farm mechanization. In the long term, its purpose was to provide guidelines on farm mechanization for national policy makers, and on research and development activities.

3. Another possible motive for convening the Panel may have been to respond to the bad press that farm mechanization has been getting in recent years over the issue of its employment effects, particularly from economists. The Conference may be viewed therefore as an attempt to bring economists and agricultural engineers together to help resolve apparent differences, and to promote a multi-disciplinary view of the issues.

4. The Conference Secretariat asked the Panel to consider the benefits and possible dangers of mechanization in the following context. The rapid growth of population in virtually all developing countries requires a commensurate growth in agricultural production. The recent World Food Conference stressed the need for substantial increase in food production in developing countries if a world food crisis is to be avoided. Mechanization, it was noted, is one of the inputs that can help increase food production. However, growth in population implies growth of labor force, and even with the existing migration from rural to urban areas, the agricultural work force in most of the developing countries is bound to increase in size for many years to come. Careful consideration must therefore be given to the effect of mechanization on employment. It was also noted that mechanization can reduce drudgery on the farm and make farm life more attractive in order to counteract the drift of people from rural to urban areas.
5. Some of the papers and the Panel’s discussion revealed many disagreements still between economists and agricultural engineers concerning the role of mechanization in agricultural development. Voss and Giles produced papers that largely defend the role of mechanization. Giles insists that development of a mechanization system must involve an interdisciplinary effort, but he restricts the role of the economist to a passive one of evaluating the end product. Bruce Johnston took strong exception to this view. On the other hand, an excellent paper by Bart Duff which integrates much of what economists and agricultural engineers have been trying to say to one another was very well received. Hence, when it came to evaluating the fruits of engineering research programmes like that at IRRI, we sensed a consensus among those present that the logic of the IRRI approach was desirable and makes sense from both engineering and economic points of view. A good statement of an economist’s perception of mechanisation policy was given by Abercrombie.

Another good paper - on the scope for mechanisation in Nigeria - was presented by Olusami. On the whole, disagreements between engineers and economists may be more apparent than real; they may largely evaporate as the concern and interests of each discipline become better understood by the other.

6. A brief review of some of the important discussions that took place at the meeting is provided below. In addition, copies of individual papers and of Chairman’s summaries of discussions will be placed on the Division’s files, along with recommendations coming out of the first three sessions. A report on the Conference is also being prepared by FAO and will be made available soon. The issues covered will also be discussed in depth in the Bank’s issues paper on agricultural mechanisation.

7. There was unanimous agreement that mechanisation must be broadly defined to include a wide range of options, from simple improved hand tools and animal equipment of better design to small and large tractors.

8. Labor replacement in the case of mechanisation of small family farms (where labor replacement will not have adverse effects) was carefully delineated from labor displacement on larger, commercial farms, and it was recommended that research be carried out to help resolve institutional, management and other bottlenecks that make mechanisation of small family farms difficult. It was further argued by some that what the small farmer is concerned with is how much food he can produce (and hence his income) and not how many hours he works; hence, income and not the hours worked may in this situation be a better social measure of employment levels. A number of speakers cited the backward and forward link effects of mechanisation, their effect on employment and rural development as a whole. Other speakers, however, cautioned that these effects are often exaggerated.

9. Since returns to be expected from investments in different types of power are likely to vary, it was suggested that emphasis must be on those ones that can have greater impact on farm production. For example, in India the application of power to “stationary” operations, especially pumping water for irrigation, has had a much greater impact on farm production than the increase in “mobile” power for field operations.
It was also suggested that emphasis must be given to efforts to foster wider and more efficient use of animal power, since this minimizes the farmer's requirements for cash outlays on machinery and fuel and since animal-drawn equipment, being simple, would stimulate the growth of non-farm employment in relatively labor-intensive, rural-based industries. On the other hand, a number of participants expressed reservations about the importance to be attached to animal-drawn equipment because of (1) the extra land required to produce fodder for draught animals; (2) the unattractiveness of this type of mechanization to farmers who are not used to it; (3) the time span required to rear draught animals in large numbers to service new areas; (4) the reluctance of agricultural extension staff to promote this type of mechanization; and (5) the presence of tsetse fly and other insects in certain areas, which make the rearing of draught animals impossible.

The Conference agreed on the need for appropriate (or what has been called "selective") mechanization, and it observed that factors determining the appropriate form of mechanization must include: (1) the availability of agricultural land; (2) the availability of agricultural labor; (3) the availability of capital; (4) needs, attitudes and aspirations of farmers, (5) the level of technological development, (6) farming systems, and (7) agro-ecological conditions.

Furthermore, it was generally agreed that different kinds of mechanization are appropriate for countries at different stages of development. It was also noted that widely differing conditions exist within countries, and this also must be reflected in mechanization policies. Widely different forms of motorized mechanization are found in developed countries. For example, in Japan, holdings are small and fully mechanized with small-sized equipment; in most other developed countries, holdings tend to be larger and are mechanized with large-sized equipment. It was emphasized that each country must have a policy for mechanization and that a country's mechanization policy needs to be viewed as an integral part of its broader strategy for its economic development. It was stressed that Governments must take positive roles in influencing the course of agricultural mechanization in their countries.

There was general agreement on the need for an interdisciplinary approach to the complex problems to be considered in developing a national policy for mechanization. This called for cooperation between agricultural engineers, irrigation and soil scientists, plant breeders, agronomists and other agricultural specialists, economists and social scientists.

Mechanization policies, it was mentioned, must be dynamic and must therefore be subject to continuous review. A need for adequate institutional machinery at both national and sector planning levels was expressed. Guidelines for mechanization policies in developing countries must be matched by appropriate policies in multilateral and bi-lateral aid institutions.
15. Wide agreement emerged in favour of establishing and sponsoring farm equipment institutes in developing countries to undertake R and D activity and to advise governments on their mechanization policies. It was recommended that steps be taken by FAO to explore the possibility of obtaining financial assistance from donor countries and farm machinery manufacturers to support such activities.

16. Participants generally agreed on the importance of training programs and the need for supply, service, maintenance and operation of farm machinery and equipment.

17. It was agreed that where technically and economically feasible, local manufacture and assembly must be encouraged. Successes in the Philippines and Thailand in this endeavour were cited as examples. It was noted that simple improved tools and equipment suited to the needs of a country can be made by small firms and even by local blacksmiths.

18. It was recommended that FAO should continue to act as a clearing house for multi-disciplinary information on the desirable and undesirable consequences of mechanization, and to catalog research work on mechanization and disseminate it.

19. Among the other recommendations addressed to FAO were the following: that it should encourage governments to set up engineering advisory bodies; and that it establish a joint FAO/Equipment Industry Advisory Committee. How much further FAO's Agricultural Engineering Service might want to extend its role is a moot point. The Secretariat of the Conference plans to distribute transcripts of the meeting and of its sense of the Expert Panel's decisions. Perhaps only then might we see clearly what the Service has in mind, and whether this will involve more than a reorganization of their existing activities. We sense though that they will want a larger budget. The FAO already has sizeable resources committed to this aspect of agriculture. The Bank should be interested in their disposition, if only because of the Services indirect influence on the preparation of agricultural mechanization components of Bank projects.

20. Finally, a few words on the lessons of the Conference for the Bank's proposed issues paper on agricultural mechanization. Mr. Duff's paper on "Output, Employment and Mechanization in Philippine Agriculture" is a good one, partly because it reviews systematically the various operations that can be mechanized; irrigation, spraying, land preparation and so on. A similar approach to cataloging the potential agricultural operations that are relevant for mechanization is anticipated in the current outline of the issues paper, and this part of it is regarded now as even more essential than before. On the other hand, the system of classification used for organizing the Panel's papers, namely, according to which factors are scarce in a country - land, labor and capital - probably conveys too easily the impression that these classifications hold also for all farms in that country and that it provides an adequate framework for deriving country mechanization policies. There was
recurring emphasis during the Panel's discussion on the need to look carefully at the motivations of individual farmers and at the diversity of farm types, sizes, etc. The point we wish to make is that land may be the limiting factor for farm managers in densely populated, poor countries, only when land is distributed fairly evenly, at least in an operational sense. It will be necessary to emphasize repeatedly in the issues paper the need to consider the distribution of operational holdings by size, especially when considering mechanization policies regarding cultivation and other field operations.

21. An outline of the issues paper will be distributed soon to Assistant Directors of Projects Departments in the regions to secure their comments and suggestions.

cc: Messrs. Baum
     Verraart
     Madworth
     Yudelman

Donaldson
Downing
Weiss

Assistant Directors (Ag.)

Messrs. Hames
Maxwell
Picciotto
Vergin
Pollan
Hendry
Rowe

PReparation
February 28, 1975

Mr. William Robbins
New York Times Bureau
1920 L Street, N. W.
Washington, D. C. 20036

Dear Bill:

I understand that you were not aware of the press conference yesterday at which the World Bank's sector paper on rural development was released for publication on March 9. I am sorry about this and am happy to enclose a copy of the paper. I have also sent one to Mr. Rensberger in New York.

With best wishes,

Sincerely,

Michael L. Hoffman
Director
International Relations Department

Enclosure

MLHoffman/pnn
February 28, 1975

Mr. Boyce Rensberger
Science News
The New York Times
Times Square
New York, New York 10036

Dear Mr. Rensberger:

I recall with pleasure our conversation of some weeks ago about the World Food Conference and some of the follow-up action that we contemplate. Yesterday the Bank released for publication on March 9 its sector policy paper on rural development which is widely regarded in the United Nations system as the most comprehensive, meaningful report yet put forward. As there was no representative of The New York Times at yesterday's press conference, I thought you might be interested in the document, and I am happy to enclose a copy. I am also sending it to Bill Robbins in the Washington bureau.

Sincerely,

Michael L. Hoffman
Director
International Relations Department

Enclosure

MLHoffman/nn
Mr. Adlir

Mr. Husein, Copy Zaborski

We would be delighted to avail ourselves opportunity of meeting with Mr. Yuedelman on March 11. However, meeting that day will disrupt following missions:

- **Ethiopia** - Coffee II preparation (Peperezak)
- **Southern Sudan** - Supervision (Kordik) combined with Ho Argyile, which may be impossible to reschedule.
- **Tanzania** - Maize project (Denness/Stubenitsky/Clough) combined with Consultant and Government preparation team and involving field preparation mini regional maize plans.

In regard to ADS, these staff are employed by governments and their release in each case would be subject to government approval. We are also of opinion that this meeting would have restricted value these men in view of their responsibilities, while cost of bringing them to Nairobi would be severe strain on our budget (there are 21 in all). Also transport from outlying stations Juba, Karonga, Geita, presents travel difficulties. On all counts, although we would welcome the opportunity, we wonder whether in the foreseeable future it might be possible to suggest an alternative date which we could schedule in our future program thus avoiding disruptions noted above and slippage of RHEA work program. If there is possibility of new date, grateful you advise, if not, will arrange for RHEA staff to be available and subject to your further directions would exclude ADS. We would arrange to review the paper at appropriate time with you.

As regards reports, we have only received five Xerox advance copies which are in circulation. Assume copies for all staff (about 60 with spares) have been despatched. Most grateful if Zaborski by copy this telex could expedite. Regards.
You recently called me to ask whether Bank sewage disposal or solid wastes projects included the use of the effluent or waste material for agricultural purposes. I referred you to Messrs. Cosgrove and Grover for details of use of effluent for irrigation in North Africa and Israel.

You may also be interested in:

Zihuatanejo tourism project, Mexico
Use of effluent to irrigate golf course and agricultural land (contact Mr. Zavala).

Famagusta and Nicosia sewerage projects, Cyprus
Use of effluent for irrigation (not part of the project works; effluent pipeline and irrigation works being constructed by separate government organizations) (contact Mr. Grover).

Mexico City water supply project
Treated sewage effluent will be used to replace fresh water currently being used for irrigation (contact Mr. Zavala).

Lahore water supply project, Pakistan
Oxidation ponds are being used for sewage treatment. Use of the effluent for pisciculture and irrigation is being evaluated (contact Mr. Saravanapavan).

Kyongu tourism project, Korea
Effluent for oxidation ponds being considered for irrigation (contact Mr. Reekie).

Bombay water supply and sewerage project, India
Studies of the possible use of part of the effluent for irrigation should commence shortly (contact Mr. Rasmusson).
THE BOARD HAS CONCLUDED DISCUSSIONS OF THE RURAL DEVELOPMENT POLICY PAPER WITH STRONG ENDORSEMENT OF ITS RECOMMENDATIONS STOP BECAUSE OF THE IMPORTANCE OF THIS MATTER TO THE BANK'S LENDING PROGRAM AND IN PARTICULAR TO PROJECT PREPARATION I WOULD RECOMMEND THAT YOU CALL IN ALL YOUR STAFF INCLUDING ADS TO A GENERAL MEETING DURING THE VISIT OF MESSRS YUDELMAN AND CHRISTOFFERSEN FOR BRIEFINGS ON THE BANK'S RURAL DEVELOPMENT POLICIES AND CONSEQUENT IMPLICATIONS ON OUR PROJECT WORK STOP TENTATIVELY I HAVE SUGGESTED THE MORNING OF MARCH ELEVEN IF CONVENIENT TO YOU REGARDS

SHAHID HUSAIN

NOT TO BE TRANSMITTED

AUTHORIZED BY:

NAME  S. Husain
DEPT.  E. Africa Regional Ofc.
SIGNATURE  
REFERENCE: Rural Dev. Policy Paper
LChristoffersen:pdn
ORIGINAL (File Copy)

CLEARANCES AND COPY DISTRIBUTION:

Cleared with and cc: Mr. Yudelman
cc: Messrs. Adler
Please
Wiehen
Hendry

For Use By Communications Section

Checked for Dispatch: 
10
Dear Mr. Bernet:

Thank you for your letter of January 17 to which you attached your recent paper "The Efficient and Safe Use of Pesticides in Agriculture and Public Health in Africa". I have read this with interest and have arranged to have it circulated to appropriate Bank staff members for their reference.

Sincerely,

Montague Yudelman
Director
Agriculture & Rural Development, CPS
February 19, 1975

Mr. Robert S. McNamara, President
International Bank for Reconstruction and Development
1818 H Street
Washington, D.C. 20433

Dear Mr. McNamara:

I was very much fascinated to listen this weekend to your discussion on television with Bill Moyers about the world's food shortages and I hope that your thoughts will provoke a great deal of favorably response.

While listening to you, the idea came to me that you might be interested in a waste re-cycling process recently perfected by one of our affiliated companies. We are very excited about the "Cereco Process" because we believe that in it could well lie the key to the solution, or at least the reduction, of the protein shortage in so many countries. I am enclosing a booklet of the Ceres Ecology Corporation together with a complementary article from yesterday's New York Times.

Copies of the booklet are at present being circulated among all members of Congress in order to attract the governmental support and assistance required to bring about wide use of the process both here and abroad. I hope you too will be interested in the subject and if so we shall be delighted to receive your comments.

Sincerely yours,

[Signature]

W. Peter Ronald

Encl.

cc: Bill Moyers
304 W. 58 St
New York, N.Y. 10019
# Record Removal Notice

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**Correspondents / Participants**

**Subject / Title**
Statement of Mr. Rota on Rural Development and Bank Policies

**Exception(s)**

**Additional Comments**
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Archives 01 (March 2017)
Messrs. Alter, Bell, Benjenk, Chaufournier, 
Hussin, Weiner 
Montague Yudelman

February 12, 1975

Project Projection of Foodstaple Availability

Following up the recent discussions in the President's Council, we have been requested by Mr. McNamara to coordinate the work of projecting foodstaple and input balances in the following fifteen countries:

- **South Asia**: Bangladesh, Burma, India and Pakistan
- **East Asia & Pacific**: Indonesia, Philippines and Thailand
- **Egypt, Iran and Turkey**: Egypt, Iran and Turkey
- **Eastern Africa**: Ethiopia and Sudan
- **Western Africa**: Nigeria
- **Latin America & Caribbean**: Brazil and Mexico

I attach tables which have been produced for India as an illustration of the kind of information required. It is appreciated that the data base may be deficient or too slender to warrant some of the projections sought. Should this be so, then explanations should be given, together with suggestions as to how the data gaps could best be filled. It may also be necessary to modify the tables to suit the availability of data in each country, but in all cases the objective of the exercise—namely, the estimation of future foodstaple and input balances—is retained.

The primary responsibility for the work must lie with the Regional program and projects staff. I have given the overall responsibility for coordination, for providing assistance and for assembling and editing the projections for presentation to Mr. McNamara to the Agricultural Economics Unit in our department, and Mr. T.J. Goering has overall responsibility within this Unit. During his absence on mission in South Vietnam from about March 10-31, Mr. C. Donaldson will take over.

The projections have to be submitted to Mr. McNamara by the end of April. In order to meet this deadline, each country's projections should be ready by mid-April.

It would be helpful if you would nominate one person from your Region to coordinate the work in your Region and to attend a meeting to be held in Room D-860 at 2:30 p.m. on Friday, February 14, to discuss the program of work and the problems involved.

Attachment:
cc: Mr. Robert S. McNamara
    Mr. J. Burke Knapp
    Mr. Warren G. Baum
    Mr. W. Clark
    Mr. E. Stern
    Mr. E. Martin
    Regional Chief Economists
    Regional Assistant Directors of Agriculture
    Messrs. Donaldson, Goering, Kim

CBrice 1235
Mr. Montague Yudelman, Director, Agric. & Rural Development Department  

Heinz Vorgin, Acting Director, EAP - Proj. Dept.  

February 10, 1975  

Project Management - Mr. Darnell’s memorandum of January 15, 1975

1. We welcome the general thrust of the questions raised in Mr. Darnell’s memorandum of January 15 and in its attachments. A critical examination of management arrangements for agricultural projects is already a major element in our supervision and appraisal work and is leading us to reconsider the management arrangements of selected ongoing projects in Indonesia and possibly Thailand. We will share these case studies of project management problems with you in the course of our routine exchange of operational documents. To the extent that the results of these case studies lend themselves to generalization applicable beyond the bounds of the specific sub-sector or country, we will also share these findings when they have emerged more clearly from our case studies. Part II of the Problem Project Review as currently scheduled by Mr. Knapp already provides for such an exchange of general project experience.

2. However, in our search for a better understanding of management problems in agricultural projects, we do not think it worthwhile to use multiple choice questionnaires which, with minor adjustments, have been transferred from a "Review of Experience with Project Implementation Units" in the education sector. In fact, we doubt that any questionnaire can capture the complexities of project management and organization that are to be found in any sample of agricultural projects. For instance, the 20 projects on which we have been asked to report involve projects which are being executed by state-owned corporations, cess-funded bodies, semi-autonomous agencies, project implementation units, banks and government line departments. To give just one example, we don’t think that the question whether implementation of land settlement projects in Malaysia has been appropriately entrusted to FELDA should be addressed in the context of even the most carefully designed, standardized questionnaire.

3. We repeat that we fully share your concern with the suitability of the organizational arrangements which have been and are being made for agricultural projects, but we feel that it is too important a matter to be handled by a questionnaire study and prefer to devote our scarce resources to the already ongoing case-by-case examination of these problems in the course of our regular supervision work. Such an approach also has the added advantage that it allows our Program colleagues to bring their intensive country experience to bear upon our sectoral experience.

4. Finally, we think that the design of a Bank-wide "review of experience with the management of agricultural projects" would be a highly suitable topic for discussion at one of the next meetings of managers of agricultural operations.

c.c. Messrs. Bell and Votaw (with attachments)  

Messrs. Kirmani o/r, Golan/Smith, Sutherland/Milford, Powell, Johanson, Fannell and Darnell (without attachments)
As requested through Mr. Damry, I have outlined some of the issues which you may wish to use in the final summary of the Board discussions of the Rural Development Policy Paper.

1. The Measurement of Rural Poverty

While there seemed to be general support for the quantitative analysis of rural poverty in the Policy Paper, there were several speakers (Gavidia, Barrios, Sigurdson, and Thanane) who stressed the need for taking into account non-economic factors in the computation of boundary limits for rural poverty groups.

Action: Country economists already do include such measures in the data profiles of each country economic report. Furthermore, country economists are also presently helping the Rural Development Division with more specific country estimates for the boundary limits for rural poverty groups to be assisted in upcoming rural development projects. These estimates will take into account non-economic factors—particularly measures for minimum nutritional standards.

2. Special Poverty Groups

Dr. Sen believed that certain poverty groups, such as tribal and nomadic groups, could not be expected to benefit appreciably from rural development programs of the kind presented in the report. He hoped that a paper could be prepared in the future on the special problems which those groups face—estimated, according to Dr. Sen, at a total of about 100 million people.

Action: Several rural development projects in fact already include such special poverty groups. Livestock projects in Africa frequently deal with migratory tribal groups. A large comprehensive rural development project in Mexico—soon to be presented to the Board—includes poverty areas inhabited by Indian tribes. This is also a feature of an upcoming rural development project in Mindora in the Philippines. It is true, of course, that these groups face difficult problems which have to be dealt with in a careful manner and with considerable sociological skills. As we develop experience with programs which include tribal and nomadic poor, we will learn how effectively they can be assisted in such programs.

3. Reconciliation of Productivity Objectives and Poverty Elimination

There seemed to be general satisfaction with the strong emphasis on productivity in rural development projects; a good deal of the discussions
centered around the anticipated achievement through Bank projects to reconcile the production objective, particularly with respect to food crops, with the objective of alleviating rural poverty. While many speakers hoped that these twin objectives could be achieved, several questioned to what extent this would be possible. We have already explained that circumstances differed from country to country. By and large, one could expect that in many large Asian countries the main emphasis must be on raising small farmer productivity; in other countries the food production objective would be pursued "by other than small farmers". Some Executive Directors presented views that seemed to put even more emphasis on the poverty issue than the paper itself. The British felt that production increases may often be better pursued on small than on large farms, and that indeed "collective systems" favored production increases even more than small farmers. The Nordic Executive Director stressed that, in the views of his authorities, whenever the two twin objectives could not be reconciled, the poverty objective should get priority. Others, however, felt more strongly that productivity objectives were of prime importance (Faure and Krieger).

With respect to situations where large farmers were major beneficiaries of Bank projects, Mr. Sigurdson specifically queried an apparent difference between the Land Reform Policy Paper and the present paper. He pointed out that in the review of the Land Reform Paper it was agreed that whenever agricultural production or balance of payments considerations were considered of overriding importance to a country and project focus, the Bank should "carefully consider whether the fiscal arrangements are appropriate to insure that the reasonable share of the benefits accrues to the Government". This was not repeated in the present paper. Did this, Mr. Sigurdson wondered, imply a shift in Bank policy? Mr. Knapp responded by assuring Mr. Sigurdson that "the omission of reference to that was by no means deliberate and does not reflect any change in stated policy".

Action: This is a most difficult and complex issue. Because of its central importance to the Bank's lending strategy, the Board should be assured that we shall do our utmost to examine it carefully in each country and project context. We plan to work closely with FAO and other organizations on this matter; the economists at the international agricultural research institutions are also working on this topic. Bilateral aid agencies' experiences will be studied. Furthermore, we intend to review carefully whether it will be necessary to increase the percentage share of the Bank's research program and budget devoted to clarifying to what extent and under what circumstances the twin goals conflict.

4. Need to Consider Non-agricultural Production Components in Rural Development Programs

Several speakers stressed the need to provide non-agricultural production and employment opportunities for rural poor, such as those associated with intermediate technology, rural industries and public works.
Action: The report itself does stress the importance of these options, but much more needs to be done; public works components have already been included in some of our recent projects. A large study on public works programs is underway, financed by our Research Budget and carried out by a team of economists at Harvard University. The dynamics of small-scale rural industries are not very well understood, and there is still a need for effective policy prescriptions. Our staff is planning to devote more effort on this complex subject matter in the future.

5. Exclusion of Certain Country Experiences (Mainland China and India)

Dr. Sen raised this point. Specifically he wondered why in India only the Drought Prone Areas Program was mentioned in the report.

Action: The report is condensed from a whole series of studies about rural development around the world, including several studies about India. A former member of the Indian Planning Commission (Raj Krishna) prepared for us one such study on India, covering many of the important community action programs in India since Independence. The lessons from these experiences are indeed incorporated in the report's conclusions and recommendations, even though India is not often mentioned specifically in the report. Furthermore, Mainland China's experience was dealt with in a separate internal study of agriculture and rural development in that country, although this study was not mentioned in the policy paper. We intend to follow closely what happens in these two countries in the future.

6. Urban versus Rural Development

Mr. Clarke stressed that the link between urban and rural development seems to be of increasing importance, particularly when, as in many Latin American countries, a substantial and rising share of the poverty target groups resides in urban areas.

Action: Such a link is indeed an important one. At present both CPS and regional staff are examining ways to deal with it. In some rural development projects, for example, the one in Mauritius (approved by the Board in July 1973), this link was explicitly taken into account in the project analysis.

7. Link to Family Planning

Two speakers (Sen and Browning) specifically welcomed the reference in the report to including, whenever appropriate, family planning elements in rural development projects.

Action: So far little has been done on this point, although some projects (such as the Mauritius Rural Development Project) do include health posts, which, inter alia, are meant to serve such a purpose. I will meet with Mr. Kanagaratnam to discuss how this link can be addressed more directly in future projects.
8. Proposed Lending Program

All speakers appeared to express full support for the proposed Five-year Lending Objectives. Mr. Sigurdson thought it should be considered a minimum objective—to be exceeded whenever the absorptive capacities of the countries concerned (and the Bank's capabilities) seemed higher than what we now anticipate. Mr. Clarke wondered why South Asia did not get a larger share in the lending program, given the heavy concentration of the world's rural poor in that region.

Action: The Lending Program will be revised from time to time to take into account the absorptive capacities of countries and the Bank. The problem facing South Asia is in part due to a lack of adequate IDA resources. Perhaps one could mention the special tasks which Sir John Crawford will carry out with the India Government in the next few years.

9. Staffing Requirements

Several speakers (Barrios, Choi, Clarke and Sigurdson) supported the idea that a higher staffing intensity would be necessary for the Bank's rural development work. Mr. Knapp stated that such manpower would be found within the overall administrative budget as "a matter of priority".

Action: Specific manpower coefficients are extremely difficult to make at this point in time since so much of our time is presently taken up by helping governments to set up their own task forces for project preparation. In so doing, however, the staffing increases will not be merely justified by a larger number of Bank missions, as Mr. Browning feared, but will indeed serve the objective he had in mind, namely "working within countries' national programs" and improving their project preparation capacities.

10. Sociological Factors Must Be Considered

Two speakers (Clarke and Rasafindrabe) emphasized the sociological factors in rural development.

Action: The regional projects departments increasingly use consultants who are sociologists or anthropologists. Recently a Rural Sociologist has been employed by the Bank on a permanent basis (presently in our Department).

11. Coordination of Rural Development Work with Other Agencies

Close cooperation with other multilateral agencies was stressed (Rasafindrabe) and the UK and Australia expressed specific interest in joint or parallel financing in connection with rural development projects. Mr. Faure suggested better aid coordination for rural development assistance through the use of the Consultative Groups arrangements as forums "to outline the general guidelines for rural development policies in some countries".
Action: Close contacts have already been established between the respective Rural Development Units in the Bank, UNDP, FAO, UNESCO, ILO, WHO and UNIDO and we intend to strengthen these contacts further. The UN Capital Development Fund participated in the financing of the Kigoma Rural Development Project in Tanzania last August. Discussions with Regional Development Banks on this matter have already led to the prospects of sizeable parallel financing with IDB for a large rural development program in Mexico. Parallel or joint financing from bilateral sources will be welcome and Mr. Faure's suggestion on the use of Consultative Groups merits attention. We shall alert the International Relations Department to this suggestion.

12. Further Progress Reports and Publication of Rural Development Documents

Several speakers expressed interest in further Progress Reports. Annual reports were suggested by Mr. Sigurdson. Mr. Knapp pointed out that it is the practice of the Bank to reiterate sector reports "when we have something new to say or when we have some substantial record of progress to report".

Other speakers hoped more rural development documents could be made available to interested member governments.

Action: Further Progress Reports are planned and should be issued to the Board—perhaps at three-year intervals. Annual reports are not recommended now, as this would entail considerable staff efforts over and above what is budgeted in our work program. As to publications, the present policy paper will be edited and soon published for outside distribution. The African Rural Development Study is also about to be published and should provide useful information to governments on many rural development schemes supported by both multilateral and bilateral agencies in a large number of African countries.

LEChristoffersen: jo'd

cc: Messrs. Knapp
    Baum
    Damry
Crop Insurances: A Technique for Enhancing Smallholder Returns: Comments per your request

1. This is a worthwhile review. It might usefully be circulated as a draft Working Paper (Yellow Cover) for discussion in the Bank in its present form. This might usefully be followed by a workshop/seminar within three months in order to ensure that it is read and to crystallize opinions. A revised version might then be prepared for release to a wider audience.

2. A field review of ongoing schemes such as those in Sri Lanka and Kenya would seem very useful. Terms of reference for such a review ought to be very carefully prepared in order to get appropriate depth and focus into the information search. Particular attention should be paid to the actuarial aspects, to the farm production responses, and in particular to the administrative aspects of such programs.

3. I agree that a guaranteed minimum return type of program might be preferred in many developing country situations. However, rather than a general country-wide scheme proposed in section IV of this report, I suggest that a project based scheme or schemes (with a national standard established) is likely to be more effective, at least in the early stages. The primary reason is that the eight conditions set out in para. 1.12 (with which I agree, but which are not very well stated or elaborated in the text) are likely to be most easily realised in a project context. Once established within projects, however, a scheme could be extended over large areas, especially once the availability of trained staff and other requirements were met.

4. A second major reason is that such insurance might be most useful when related to new technology, such as that included in rural development projects. In such circumstances, the higher risk associated with new technology might be offset - this would not only add to the viability of the project as a whole but also enhance adoption of new technology, thus increasing its impact within a given time.

5. Apart from these comments, there is a more analytical point that warrants attention when the report is re-drafted. The means by which smallholders' returns will be enhanced are nowhere elaborated in the report, although this is its title. It is implied that the benefits will derive from more even incomes. In a straight arithmetic sense this may or may not be the case. Further, increased productivity is in practice and in principle the result of increased capital investment (all other things being equal). There is some evidence to suggest that the level of savings and thus of capital investment in farming is higher in situations where income fluctuations from year to year are greater (provided the production base is adequate to ensure economic survival in bad seasons). This may or may not be the case depending on the degree of production variability and adequacy of the insurance program.
6. On the other hand, in addition to reducing the variability of smallholder incomes, a production (crop or livestock) insurance program might do three things: (i) remove the uncertainty associated with new technology, thus enhancing adoption and increasing its level of use on individual farms as well as across a target population; (ii) prevent regression in technology adoption, as to older varieties considered more reliable in adverse seasons and conditions; and (iii) avoid the destruction of capital, such as the consumption of HYV seeds, and the sale or consumption of breeding livestock. These effects in aggregate may be much more important than the simple arithmetic benefits that derive from more regular incomes - but this proposition ought to be examined more thoroughly.

7. This would seem a good area through which to enter the whole subject of motivation and response in a rural development context.

cc: Colin Bruce, David Turnham

GFDonaldson:mt
# Record Removal Notice

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| Ann May | October 04, 2022 |
TO: Program Division Chiefs

FROM: Leif E. Christoffersen, Rural Development Division (CPS)

SUBJECT: Monitoring/Control System for Rural Development Projects--A System for Establishment of Upper Income Level of the Target Groups

1. With the memorandum from Mr. Baum to Regional Vice Presidents, dated July 24, 1974, a Bank-wide control/monitoring system for rural development projects was set up within the Agriculture and Rural Development Department, CPS. The results of the first trial of this system are described in a separate paper, "Monitoring/Control System for Rural Development Projects--Results from the first set of Project Information Briefs (PIBs)", circulated January 24, 1975. A separate Monitoring Unit has recently been established in the Rural Development Division to carry out the further implementation of this system.

2. The new Rural Development Policy Paper (Report No. 588, dated December 2, 1974) explains how one may proceed to identify the target group of rural poor:

"...This notion of target groups lies at the root of the definition of rural development as a separable and distinct component of general development strategy. It provides that necessary focus on groups of the rural population in terms of whose well-being policy actions and programs can be designed and evaluated. Target groups are best defined in the context of the individual country. However, a basic standard for identifying target groups would be the income necessary to cover minimum nutritional requirements and essential non-food expenses. In addition, an income equal to or less than one-third the national average would be an appropriate additional criterion to allow for extreme relative poverty in developing countries..." (para. 1.4)

Thus, attention is shifted from a blanket criterion of bottom 40% in all countries, to a mixed criterion, reflecting partly the incidence of absolute poverty and partly the degree of relative inequality. This new standard has been adopted for purposes of the control/monitoring system and will be used for determining whether projects are deemed to be suitably described as rural development projects--whether of a multisectoral or of a single sector type. The boundary income separating the target from the non-target groups would thus be set either by the per capita cost of the minimum needs household budget or by a level of per capita income one-third of the average for the country in question, whichever is higher.
3. The latter criterion would probably dominate the minimum needs criterion in most countries of LAC and EMENA regions, and some countries in East Asia & Pacific and West Africa regions. To calculate it requires for each country an estimate of per capita personal income $I/$, including valuation of income in kind as well as cash income. One considerable advantage of the new approach is that unlike the lowest 40% criterion, it does not require estimation of income distribution parameters. For countries where minimum needs would be the operative criterion, the estimation problem is more complicated. In the Rural Development Policy Paper rough calculation of US$50 per capita at 1969 prices was used as a proxy for analysis of absolute poverty. However, a more country specific figure is essential for rural development project definition and analysis, and its derivation will clearly need to involve the work of the country economists.

4. The main problems would seem to be estimation of the cost of the minimum needs food basket and the relationship between this and non-food necessities. A reasonable approximation might involve (a) estimating minimum food needs for a representative family, (b) costing these needs, and (c) assuming maybe a 30% factor for non-food necessities--i.e., arriving at total minimum budget requirements by dividing the food cost estimates by 0.7. An interesting example of a calculation of a minimum needs budget in the case of Indonesia has been carried out by On Nijhawan, country economist in the East Asia & Pacific region (attached as Annex 1).

5. Since the project staff in the Regions, as well as in CPS, will be mainly responsible for collecting the specific income information about prospective project beneficiaries--usually data at current prices--it is suggested that the boundary income estimates be updated on a regular basis--probably every year. They should be shown specifically in each country economic report and in the CPP. A form for submission of "target group" information for each Country Program Division is attached as Annex 2.

$I/$ Usually one will have to ignore the minor differences between household income and personal income.
"If reduction of poverty is a specific objective of development planning, it would seem instructive to construct some measure of the extent of poverty, however rough. Poverty is a relative term. It may thus be best defined in the context of existing structure of incomes and consumption. Even then, a clear-cut distinction between the poor and "not poor" would neither seem possible nor essential. What is important is to broadly identify the poor and to have a rough measure of the unfulfilled needs of the community."

"A poverty line may be defined by an income or consumption level which provides at least minimum adequate diet and other necessities. Families having income/consumption below that standard may be termed as poor and those having access to necessities of life as "not poor". A minimum adequate diet may roughly consist of minimum energy and protein requirements recommended by nutrition experts. In case of Southeast Asia, a joint FAO/WHO Expert Group in 1972 recommended an average intake of 2,100 kilo calories and 23 grams of protein. A consumption pattern which provides these minimum requirements and associated standard of housing, water and clothing, etc., could be fixed as a standard which can be applied to programs aimed at alleviating poverty and for necessary productive effort to do so."

"The 1969 Survey of Consumer Expenditure conducted by Biro Pusat Statistik provides some rudimentary data to measure roughly the extent of poverty in Indonesia. The survey covered both rural and urban areas of Indonesia, excluding Aceh, Riau, South Central and Eastern Kalimantan, West Nusa Tenggara, Meluku and Irian Barat, with a 1969 population of 104.5 million, and a per capita GNP of $58 (derived from Regional Incomes Estimates made by a Bank mission in 1973). The survey divided the population in 10 expenditure groups from up to Rp 300 per capita per month to Rp 3,001 and above. It gives an average per capita consumption of $145. (The Consumer Expenditure Survey may have underestimated consumption by about 10 percent.)"

"The Survey divided total consumption expenditures by all groups into food and non-food items. The expenditure group Rp 1,500-2,000 (average per capita of Rp 1,750 or $55, at 1969 exchange rates of Rp 378 = 1 US$) spending 77.5 percent of their total consumption expenditure on food items, had a consumption pattern which in terms of energy and protein intake amounts to approximately 2,000 kilo calories and 23 grams of protein. (Energy and protein equivalents of food consumption were roughly calculated from information contained in Food Composition Table for use in East Asia, prepared by FAO.) Eight percent of total expenditure was spent on housing, fuel, light and water; 6 percent on clothing and footwear, etc.; 4 percent on miscellaneous goods and services, 2 percent on durable and semi-durables and the remaining 3 percent on taxes, festivals and ceremonies, etc. (a total of $12 per capita p.a.)."
"The consumption level of this group (Rp 1,500-2,000 per capita per month or an average of $55 per capita p.a. in 1969 prices) could perhaps be fixed at a standard just above the poverty line. Allowing for about 10 percent under-estimation of consumption, entire population in this expenditure group may be assumed to be above the poverty line. This means that all families with per capita consumption up to Rp 1,500 per month, per capita or $48 per capita p.a. may be termed as "poor". If poverty line is fixed at a per capita consumption level of $48 (approximately $55 considering under-estimation) 68 percent of the population lived below that level. This consumption level is perhaps among the lowest in the world, yet it is higher than that achieved by more than two-thirds of the Indonesia population and therefore could serve as a standard which could be brought within reach of say two-thirds of the poor within a five to ten-year development period."
ANNEX 2

ESTIMATES OF UPPER LEVEL INCOME OF THE TARGET GROUPS FOR RURAL DEVELOPMENT

Region ____________________________
Department _________________________
Division ___________________________

<table>
<thead>
<tr>
<th>Country</th>
<th>Per Capita TPI*</th>
<th>Relative Poverty</th>
<th>Relative Poverty 1/3 of TPI*</th>
<th>Cost of Minimum Nutritional Needs Per Capita</th>
<th>Cost of Minimum Non-Nutritional Needs Per Capita</th>
<th>Total Cost of Minimum Income Requirement</th>
</tr>
</thead>
</table>

* Relative Poverty

--- Absolute Poverty ---

--- Absolute Poverty ---

At End 1971 Prices.

Total "Personal Income" would probably be derived by using as a proxy, "Households Income including private unincorporated non-financial enterprises" which is defined by the Economic and Social Council of the United Nations. See "A system of National Accounts" - United Nations, 1968.

Households Income is derived by subtracting from National Income the following amounts:

1. Savings of corporations.
2. Direct taxes on corporations.
4. Interest on public debt.

Assistance on these National Accounting matters may be obtained from the Economic and Social Data Division of the Economic Analysis and Projections Department of DPS.
In finalizing the progress report on the Nairobi Implementation Program, I shall take into account your division's involvement in the Philippines and Mrs. Hughes' involvement in Iran. However, it is unclear to me what your division intends to do in the case of Tanzania in light of the discussions in Mr. McNamara's office with respect to the Tanzania rural development sector report. It was agreed that within six months a complete analysis of the various production versus income redistribution alternatives would be made in the context of the next CPP on Tanzania. How much will you involve your division in this effort? Furthermore, I am also interested in discussing with you what we can do to provide follow up work on rural development project evaluation in Tanzania in light of Mr. Bose's involvement in our latest supervision mission.

Increasing emphasis is being placed on issues related to cost recovery and the fiscal impact of rural development projects in the various Regions. I shall also be interested in discussing with you how we can perhaps cooperate with Mr. Tenal's division on work needed to be done on these problems.

With respect to Latin America, I have briefed you about the upcoming reconnaissance mission to Ecuador. At the return of that mission, about late March, discussions will be held regarding the tentative proposals by the Region to select Ecuador as a country of concentration for the Nairobi Implementation Program. Hopefully you will keep this in mind when you prepare your work program for FY1976.
February 3, 1975

Mr. Leif E. Christoffersen  
Rural Development Department  
I.B.R.D.  
1818 H Street, N.W.  
Washington, D.C. 20433

Dear Mr. Christoffersen:

Thanks for the stimulating briefing you and Mr. Thoolen gave Manzoor Ahmed and me last week on the progress of the Bank's new program on integrated rural development. As you know from our report to the Bank—Attacking Rural Poverty—we are especially interested in how to go about fitting appropriate educational components (particularly nonformal ones) into such projects in order to heighten the effectiveness of all the other components and also to bring the lowest income families into the mainstream of rural development.

The Mexican project sounds very promising. If there were an opportunity for ICED to make a contribution on the educational side we would certainly be interested, particularly in the light of our study of Plan Puebla as part of the ICED/World Bank study.

We would be especially interested in working with Tanzania. As I told you, when I visited there a few months ago the Ministers of Education, Finance, and Information all expressed the desire for ICED to establish a continuing advisory relationship with Tanzania, particularly on the educational aspects of rural development. Such a relationship might be particularly fruitful if it were specifically tied to the integrated rural development projects supported by the Bank.

I suggested to Mr. Thoolen that during his forthcoming trip to Tanzania he might wish to consult on this matter with Mr. Michael Kinunda, National Commissioner of Education, who is familiar with ICED's work and with the discussions I had with Tanzanian officials last September (or in his absence with Mr. Meena, Permanent Secretary for Education, or with the Minister of Education, Mr. Chiwanga).

Unfortunately the Commissioner of Rural Development was away at the time, but I did meet with one of his assistants, Mr. Linjewile.

All the officials I talked with felt that there was need for critical analytical and evaluative studies directed at strengthening the educational inputs of their integrated approach to rural development. As you know, this is an education frontier where new concepts and techniques of diagnosis, planning and implementation need to be developed for use in all agrarian countries. Tanzania is a particularly favorable laboratory for developing them.
We will be anxious to follow the progress of your program in various countries and would be happy to participate wherever you think we might be useful.

Cordially,

Philip H. Coombs

PHC:dsh
cc: Mr. Ben A. Thoolen
I.B.R.D.
Mr. Michael L. Hoffman  
Director, International Relations Department  
International Bank for Reconstruction and Development  
1818 H Street, N.W.  
Washington, D.C. 20433  

Dear Mr. Hoffman:  

Since I discussed with you in December the proposed "Compact on Agricultural Development" (COAD) and later sent you a copy of the first draft, I have had feedback from various company and funding-agency officials. In general the response has been positive, and the one primary suggestion for improvement has been that the mechanism should allow for flexibility in the basic agreement.

I am taking the liberty of sending you a copy of a new draft of COAD which incorporates the suggestion, particularly through the insertion of the second paragraph from the bottom on page 2 starting with "However, COAD would not be rigid."

It is my understanding that the COAD concept will be discussed at the February 11-12 meeting of the Industry Cooperative Programme at FAO in Rome. I will be there as an observer.

Any further comments you have will be appreciated, and I thank you again for your interest and help.

Cordially,

JBL:tf  
Enclosure
The need that prompts the COAD

1. There is an urgent and obvious need to bring together in a mutual working arrangement the developing countries and business organizations with resources that can help speed the long-range solution to the world food problem (i.e., self-sufficiency by local food production in each country). However, there are histories of bitter experience and residues of misconceptions on both sides that hamper the process of mutual activities. Instruments must be devised to overcome this obstacle -- to give governments a way out of their protective shells, and agro industry a way in to the confidence of governments, so they can be put to work together.

2. In more general terms, as the world's interdependence grows and breakdowns become more widely disruptive, there must be more instruments developed to create and maintain stability in dealings among governments and peoples -- especially in legal, economic and business matters. Food, as the fundamental factor of life itself, offers perhaps the greatest potency for introducing such instruments.

3. Specifically also, as multinational or transnational business firms grow and proliferate, there is need to weave them into the social fabric in ways that will gain from all their strengths and prevent the abuses of their power. In view of the great contribution business know-how and tangible resources can make toward solving the
food problem in the developing countries, every effort should be made to expedite instruments that can assure the optimal functioning of these organizations. Ground rules are needed for everybody, to protect everybody, with what teeth may be needed to enforce the rules.

What the COAD would be and how it would work

The COAD would be a generalized agreement -- a written code -- designed to serve as the basic contract among the parties concerned in any given project between a developing country's government and a business organization, to provide services, engage in a joint venture, furnish equipment or materials, etc. It would set forth standard conditions covering rights, privileges, promises and pledges for all concerned, and would represent (no doubt) substantial compromises worked out to strike a fair balance on all sides. Matters covered would include such concerns as taxes, reparation of profits, employment policies, interference by companies in local affairs and interference by governments in corporate affairs, guarantees covering expropriation and compensation, joint-venture stipulations, etc.

However, COAD would not be rigid. Alternative procedures or provisions would be built in to fit different circumstances, and in a given circumstance, the specific final document might by agreement of all parties concerned be substantially different from the general agreement in certain particulars.

The general agreement would be worked out by a group involving not only host-country governments and multinationals (or, perhaps more specifically agro industry through ICP) but also funding agencies that would be willing to provide the necessary leverage to make the COAD work, as will be explained below. In addition, ideally, the World Court would participate in the final drafting, to insure legal wording that would provide the necessary base for arbitration or adjudication of disputes over interpreting the COAD.
Once agreed upon, the COAD would be formally subscribed to in principle by governments, corporations and other private organizations, funding agencies, etc., which might want to participate. The COAD would then be used as the basic agreement in any negotiation between a government and business firm, with fine points and details worked out beyond the COAD. A small COAD secretariat, perhaps attached to new World Food Council, FAO or the Berne Union, would file copies of contracts negotiated, initiate discussions as necessary to change the COAD as conditions change through time, and perhaps serve as a counseling arm or liaison on problems of the parties concerned.

Agencies which might be involved one way or another include the new agricultural fund (IFAD), the new U.N. Multinational Center, and the Industry Cooperative Programme (ICP) of FAO, if not FAO itself, in addition to the established funding agencies such as the World Bank and the export-import banks in the Berne Union.

Leverage hopefully would be built in by agreement of funding agencies that they would work only with countries and the various other organizations which adhere to the COAD, and that they would impose funding sanctions of appropriate kind and degree to any party that violated a specific contract built upon the COAD. The World Court would be the final judge of such violations, and would set the penalties.

For example, if Multinational X were found guilty of violating its agreement with Country A -- say by interfering in internal governmental affairs -- appropriate sanctions would be imposed as set forth in the COAD or in the specific contract filed with the COAD office. In extreme cases, this might involve blacklisting the company. Similarly,
governments expropriating a private industrial facility without regard to such guarantees as the COAD and the final contract might stipulate, could be cut off from aid on other projects.

The advantages of the COAD to the various parties concerned

1. Provide general guidance on what provisions to include in contracts, on what terms to serve all interest fairly.
2. Help insure success of a project by the equitable foundation and by reducing the likelihood of later friction.
3. Speed up any given project by the months, or perhaps a year or more, that would otherwise be required to come to satisfactory compromises on basic conditions.
4. Save time and energy of all officials and staff who are involved in negotiations.
5. Avoid unpleasantness in the course of working out compromises by negotiation, important since this unpleasantness often carries over and affects later performance of contracts.
6. Avoid cumbersome machinery which might be involved in other instrumentalities for achieving the same purpose as the COAD.
7. Provide a common basis and language for international dealings that can be used in bilateral, multilateral and other negotiations.
8. Provide similarly a basic, widely-applicable set of criteria that can be used internally by any of the organizations involved, simplifying their internal procedures.
9. Provide a basis for objective and cumulative (precedent-growing) arbitration, decision-making and sanction-setting, as a guide to future commitments and activities.
The "hidden agenda"

Interwoven with these straightforward benefits, there are some "hidden agenda" factors which might be taken into account by individuals and organizations actively working to achieve a fuller use by developing countries of the great resources represented by private business and industry.

From the standpoint of the funding agencies, for instance, it is definitely worth the effort, is it not, to have an instrument that can develop a more stable climate for financial matters, and a better, more uniform and codified practice? Granted that the agencies likely will resist any threats to their sovereignty, they may yet be persuaded to see the more positive purposes and the outweighing benefits to themselves. And as some agencies come in, the others may find themselves under increasing pressure to follow.

The crucial point for both developing countries and multinationals is the assurance that their just interests are protected; beneath that is the quirk of human nature that takes comfort in the fact that others are doing the same thing as they. Again, the positive approach must be encouraged, and the COAD is an instrument that can provide such assurance and make the first steps easy and comfortable.

An important reason for bringing the World Court into the picture is that the world desperately needs to develop international law with sanctions. This is one way the process can be advanced. The COAD would get the Court out of its present rarified stagnation into practical realities, with a sense of urgency. Involvement with the COAD would begin developing a new corpus of practice and precedent that would be a basis or
at least a prototype for other functions for the Court. And the Court's participation (once the Court image was changed by its new involvement) would give a new, needed cachet of high-level seriousness to the commitments countries and businesses make to each other, under the COAD and increasingly in all dealings.

Basic approach

The COAD is designed to be flexible enough to work at simple levels, involving even one country and one multinational at the outset, or to start off full-blown with the support of the major funding agencies and an open invitation to all developing country governments and all interested corporations to signify their adherence to the COAD. Obviously, the COAD can be developed and expanded in cumulative steps.

However, for exploratory purposes and in view of the urgency of the food problem and the need to bring maximum resources to bear as quickly as possible, it seems best to attempt the full-functioning approach from the start. Given agreement on the basic premises of COAD, compromises with the all-out approach ought to be seen for what they are, a failure or inability to make fullest use of an instrument that could save lives.
Letter No. 64

January 26, 1975

Mr. Alexander Storrar
Resident Mission
IREO
P.O. Box 32h/JKT
Jakarta, Indonesia

Dear Sandy:

A decision has been made within the Bank to prepare a policy paper for land settlement, with purposes and format similar to policy papers prepared earlier on agricultural credit, land reform and rural development. Given your extensive experience with settlement in East Africa, we would value highly your views on policy issues related to Bank lending for this activity. May I ask that at your early convenience you respond in the form of a brief note to the following questions:

(1) What are the major policy issues related to Bank lending for settlement?
(2) How should these issues be resolved?

Enclosed is a draft outline of what a paper on this topic might contain, prepared by Jim Goering of our department who will have responsibility for its preparation. Any comments on this also would be appreciated. Because I shall be absent from the office during the second half of February and the first three weeks of March, would you please communicate directly with Jim on these matters.

With best regards.

Yours sincerely,

Colin Bruce

Encl:
cc: Mr. Goering
TJG:OB/ssp
Annual Report on Bank Research

1. You asked for a note on the Annual Report on Bank Research to serve as a basis for general discussion and because the paper will be discussed along with the Rural Development Policy Paper on February 4th.

2. The categorization of research projects provided in the Report combines agriculture with rural development, while submerging in other groups non-agricultural projects substantially oriented towards the rural poor. Table 1 shows the results of a reclassification exercise. According to these estimates, rural development accounted for $390 million or 23% of total outlay in FY73, $445 million or 25% in FY74, and is projected at $345 million in FY75 — some 16% of the FY75 budget. The indicated sharp decline in RD research, taken at face value, runs contrary to the thrust of the RD Policy Paper, which argues for greater rather than for lesser efforts in this area. However, it is hard to assess from the Annual Report data what is likely to happen in future years. In FY75, a number of new projects are being started up, some of which may not give rise to major expenditures until next year. Thus, the 'Analytics of Rural Change' is one example of a new study that may prove very costly later on. (These aspects could be explored in greater depth with a file on the full program, including the estimated project budgets. It seems that we do not maintain such a file in the Department at present. Probably we ought to have this.)

3. Even allowing for greater expenditures under some of the new studies in FY76, it seems likely if we are to rebuild the share of rural development research closer to the 25% level of FY74 that maybe 3 or 4 new and rather substantial research projects would need to be prepared for and accepted by the Research Committee.

Crude classification of the rural development projects themselves is shown in Table 2. Category 1, dealing with studies addressed to small farmers and small scale farming problems, includes the work commissioned under the AMSS and the North-East Brazil study. Leaving these somewhat broader-scale studies to one side, small farmer research accounted for only 2 studies.

To begin with, were I an MD, I would not be very satisfied with the information provided in the Report, particularly since the data do not take into account the in-house costs associated with the use of Bank manpower and facilities for research. Not only would inclusion of these costs affect the overall perspective of the size of the research program, but in addition, research projects taken individually, vary considerably in their reliance on Bank consultant staff for carrying out the work. All the analysis described below ignores the in-house cost element.
and a total expenditure since FY73 of $63.5 thousands -- which struck me as surprisingly small. The main trend indicated by this classification though is the steady decline in studies about rural infrastructure (roads, water supplies, electrification) relative to the category 'other', which is concerned mainly with treatment of more general issues and tends to be more theoretical in orientation. Finally, one other way of classifying the research focused on rural development is according to the management of the projects. Table 3 shows details. The main feature is the steady increase in the importance of the IRC, its share of the total rising from 7.4% in FY73 to 46.6% in FY75. Other DFS falls from 51.2% to 29.3% while the share of CFS fell from 4.0% to 14.1% over this period. Although IRC has become more operationally oriented than in the past, nonetheless, in line with the operational emphasis of the Policy Paper, maybe the non-IRC managed share in the total program should be maintained at at least 50%. This too would seem to imply that we seek to fund a number of new projects next fiscal year in the Department and under Mark Leiserson's DFS group.

4. Looking at the list of active projects -- 11 in all -- a wide range of the important issues and concerns in rural development are covered under the research program: e.g., the small farmer, economic infrastructure, savings, population, and rural community studies. In terms of type of project though, it is less clear that the program, taken as a whole fully reflects the operational relevance and applicability to Bank work singled out both by the Policy Paper on rural development and in the Annual Report on research as number one priority. I have listed a number of possible areas for this type of research from which some proposals might be suitable for packaging for introduction in the FY76 research program.

(a) A study of projects and programs of rural development in Asia, with reference to the ARBO. Ditto Latin America. Perhaps a more structured alternative could be to examine major types of rural development project building on the beginnings of the classification developed for the rural development policy paper -- minimum package, area comprehensive, etc., with greater detail on the pros and cons of settlement, credit, irrigation, packages within these headings.

(b) An examination of rural development planning and programming including the relationship to national planning, regional planning, with major emphasis less on technique than on practical application. (Such a project could pay a good deal of attention to alternative organizational and management structures.) The mix of social and economic elements deserves special mention as a sub-issue in planning and project formulation. Are there any short cut methods of appraising the validity of alternative packages? For example, can more be done on estimating the value to the
community of various qualities of service -- water, health, power -- relative to differences in the overall level of community income in the rural areas? A related issue concerns the recurrent cost burdens associated with the maintenance and operation of new services or services maintained at higher quality levels. This kind of topic might be suitable for examination by the Fiscal Division of DPC.

(c) Third would be studies involving the development of a typology of small farm systems (involving perhaps some measure of the carrying capacity of a system relative to levels of per capita income as basic ordering principle). Such a typology could sharpen up the focus of our sector work through more precise use of comparative analysis; it might also provide a suitable umbrella for making better use of the great mass of data and information now being thrown up in the course of project preparation and appraisal. With a flow of agricultural and rural development project now about 60 per annum, this extremely valuable and uniquely cross-sectional source of data -- in regard to the exploitation of which we truly do have a comparative advantage -- should be much more fully exploited than in the past. (The mix of technical agricultural and economist skills needed for this would make this an ideal focus for CPS research activity. Jim Goering's study of settlement projects is the kind of thing that should be encouraged on a more ambitious scale). Related studies could be focussed on the use of labor in small scale agriculture, and, more generally, on activity and occupational structures in rural communities at various stages of development. These studies would help beef up the size of the program in the area of small farm studies, where, perhaps, we should be doing more.

(d) Another currently missing element is studies to broaden our understanding of the technical and as well economic requirements for stimulating the development of rural industry. The need here is too obvious to need any detailed discussion.

(e) Finally, more work on methods relating to project/program monitoring and evaluation would be highly desirable and operationally relevant. Maybe a bigger effort could be developed out of the Maua River results?

Attachments

cc: Massara, C. Bruce
    H. Leiserson
    D. Pickering
<table>
<thead>
<tr>
<th>PRO</th>
<th>FY73</th>
<th>FY74</th>
<th>FY75</th>
</tr>
</thead>
<tbody>
<tr>
<td>213</td>
<td>ARDS</td>
<td>145.8</td>
<td>12.6</td>
</tr>
<tr>
<td>253</td>
<td>Indian Mechanization</td>
<td>5.5</td>
<td>-</td>
</tr>
<tr>
<td>273</td>
<td>Brazil M.E.</td>
<td>28.7</td>
<td>133.0</td>
</tr>
<tr>
<td>280</td>
<td>Land Reform</td>
<td>-</td>
<td>35.9</td>
</tr>
<tr>
<td>289</td>
<td>Smallholder Agriculture</td>
<td>-</td>
<td>27.4</td>
</tr>
<tr>
<td>293</td>
<td>Lilongwe</td>
<td>-</td>
<td>21.4</td>
</tr>
<tr>
<td>304</td>
<td>Savings and Investment</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>217</td>
<td>Analytics of Change</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>233</td>
<td>Small Farm Productivity</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>229</td>
<td>Feeder Roads - Yemen</td>
<td>14.9</td>
<td>29.4</td>
</tr>
<tr>
<td>271</td>
<td>Feeder Roads - Ethiopia</td>
<td>18.5</td>
<td>2.4</td>
</tr>
<tr>
<td>314</td>
<td>Feeder Roads - Malagasy</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>237</td>
<td>Village Water Supply</td>
<td>18.5</td>
<td>-</td>
</tr>
<tr>
<td>238</td>
<td>Village Electrification</td>
<td>103.3</td>
<td>81.6</td>
</tr>
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<td>215</td>
<td>Public Works</td>
<td>52.9</td>
<td>101.2</td>
</tr>
<tr>
<td>302</td>
<td>Population Growth and Rural Poverty</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>388.1</strong></td>
<td><strong>444.9</strong></td>
<td><strong>318.7</strong></td>
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<tr>
<td><strong>TOTAL BUDGET</strong></td>
<td><strong>1712.7</strong></td>
<td><strong>1810.3</strong></td>
<td><strong>2131.1</strong></td>
</tr>
<tr>
<td><strong>PERCENTAGE SHARE</strong></td>
<td><strong>22.7</strong></td>
<td><strong>24.6</strong></td>
<td><strong>16.2</strong></td>
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</table>
### Table Two

**Categories of Rural Development Research**

<table>
<thead>
<tr>
<th></th>
<th>FY73</th>
<th>FY74</th>
<th>FY75</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Farm Oriented</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studies</td>
<td>174.5</td>
<td>181.5</td>
<td>133.3</td>
</tr>
<tr>
<td>Active Projects</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Rural Infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Projects</td>
<td>155.2</td>
<td>133.4</td>
<td>51.6</td>
</tr>
<tr>
<td><strong>Other Studies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Projects</td>
<td>58.4</td>
<td>150.0</td>
<td>154.3</td>
</tr>
</tbody>
</table>

### Table Three

**Management of Rural Development Research**

<table>
<thead>
<tr>
<th></th>
<th>FY73</th>
<th>FY74</th>
<th>FY75</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DRC</strong></td>
<td>28.7</td>
<td>133.0</td>
<td>154.2</td>
</tr>
<tr>
<td><strong>Other DPS</strong></td>
<td>198.7</td>
<td>171.1</td>
<td>97.3</td>
</tr>
<tr>
<td><strong>CPS</strong></td>
<td>155.2</td>
<td>140.8</td>
<td>79.7</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>5.5</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Dear Mr. Yudelman,

During my visit to Washington in May 1974 you were kind enough to grant me an interview, in the course of which I explained to you the activity of our company in agricultural projects. Our work in this field was the subject of two papers which I recently presented at the FAO/ICP Seminar in Nairobi in "The Efficient and Safe Use of Pesticides in Agriculture and Public Health in Africa" and at the 3rd International Agricultural Aviation Conference in Las Vegas. I thought that some of the contents might be of interest to you and I am therefore sending you by separate mail a copy of each.

Yours sincerely,

E.E. Bernet
Dear Mr. Yutelaun:

During my visit to Washington in May 1974, you were kind enough to grant me an interview in the course of which I explained to you the activity of our company in agricultural projects. Our work in this field was the subject of two papers which I recently presented at the FAO/WHO Seminar in Nairobi on "The Efficient and Safe Use of Pesti-
cides in Agriculture and Public Health in Africa" and at the 39th Inter-
national Agricultural Aviation Conference in Rome. I thought that
some of the contents might of interest to you and I am therefore
sending you a separate mail a copy of each.

Yours sincerely,

[Signature]

E.E. Behrendt

CIBA-GEIGY A.G., Basel, Switzerland
CIBA-GEIGY Limited, Basel, Switzerland
Telephone 061/38888
Address: CH-4002 Basel
Telex: NBD2368
Mr. Adalbert Krieger, Director, LAC I

G. Pfefferman, Senior Economist, LAC I

January 15, 1975

World Food Potential: where is it? where are pressures worst?

1. The following exercise suffers from serious defects:
   (a) the definition of "arable" land almost certainly differs widely from country to country;
   (b) the table says nothing about yield per acre or different ecological conditions.

2. Nevertheless, world arable land statistics convey some idea of where the production potential may lie, and where population pressures are worst.

Arable Land

3. The arable areas of the world (about 5 million square miles) are the equivalent of the total areas of the U.S. plus India. The following table shows countries with more than 50,000 square miles of arable land:

<table>
<thead>
<tr>
<th>Country</th>
<th>Arable Land (square miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>75,600</td>
</tr>
<tr>
<td>Australia</td>
<td>136,850</td>
</tr>
<tr>
<td>Brazil</td>
<td>115,010</td>
</tr>
<tr>
<td>Burma</td>
<td>61,308</td>
</tr>
<tr>
<td>Canada</td>
<td>161,784</td>
</tr>
<tr>
<td>China</td>
<td>421,000</td>
</tr>
<tr>
<td>France</td>
<td>81,153</td>
</tr>
<tr>
<td>India</td>
<td>626,448</td>
</tr>
<tr>
<td>Indonesia</td>
<td>68,448</td>
</tr>
<tr>
<td>Italy</td>
<td>58,928</td>
</tr>
<tr>
<td>Mexico</td>
<td>91,960</td>
</tr>
<tr>
<td>Nigeria</td>
<td>84,252</td>
</tr>
<tr>
<td>Pakistan</td>
<td>94,560 *</td>
</tr>
<tr>
<td>Poland</td>
<td>60,360</td>
</tr>
<tr>
<td>Spain</td>
<td>79,560</td>
</tr>
<tr>
<td>Turkey</td>
<td>99,160</td>
</tr>
<tr>
<td>U.S.S.R.</td>
<td>890,744</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>703,692</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,870,817</strong></td>
</tr>
</tbody>
</table>

Thus, 80 percent of the world's arable surface is in the 18 countries listed above. Progress in these countries will have more impact than elsewhere on the world shortage of food.
Pressure on Land

4. Pressure on arable land varies between over one acre per person to less than \( \frac{1}{5} \)th of an acre per person. The world average is about 0.9 acres per person. The following table shows the extreme countries in terms of population pressure on arable land. On the left are countries with less than \( \frac{1}{2} \) acre per person; on the right, countries with more than 1 acre per person:

<table>
<thead>
<tr>
<th>Country</th>
<th>Acres/Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>0.4</td>
</tr>
<tr>
<td>Bahamas</td>
<td>0.15</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>0.3</td>
</tr>
<tr>
<td>Barbados</td>
<td>0.21</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.24</td>
</tr>
<tr>
<td>China</td>
<td>0.36</td>
</tr>
<tr>
<td>Egypt</td>
<td>0.21</td>
</tr>
<tr>
<td>El Salvador</td>
<td>0.47</td>
</tr>
<tr>
<td>Germany (West)</td>
<td>0.34</td>
</tr>
<tr>
<td>Haiti</td>
<td>0.2</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.38</td>
</tr>
<tr>
<td>Israel</td>
<td>0.36</td>
</tr>
<tr>
<td>Jamaica</td>
<td>0.3</td>
</tr>
<tr>
<td>Japan</td>
<td>1.14</td>
</tr>
<tr>
<td>Kenya</td>
<td>0.39</td>
</tr>
<tr>
<td>Korea (North)</td>
<td>0.35</td>
</tr>
<tr>
<td>Korea (South)</td>
<td>1.18</td>
</tr>
<tr>
<td>Lebanon</td>
<td>0.24</td>
</tr>
<tr>
<td>Mauritania</td>
<td>0.19</td>
</tr>
<tr>
<td>Mauritius</td>
<td>0.29</td>
</tr>
<tr>
<td>Nepal</td>
<td>0.42</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.19</td>
</tr>
<tr>
<td>Peru</td>
<td>0.16</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>0.16</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>0.37</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.27</td>
</tr>
<tr>
<td>Taiwan</td>
<td>0.16</td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>0.43</td>
</tr>
<tr>
<td>U.K.</td>
<td>0.33</td>
</tr>
<tr>
<td>Vietnam (North)</td>
<td>0.24</td>
</tr>
<tr>
<td>Vietnam (South)</td>
<td>0.41</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>1.32</td>
</tr>
<tr>
<td>Algeria</td>
<td>1.37</td>
</tr>
<tr>
<td>Argentina</td>
<td>2.00</td>
</tr>
<tr>
<td>Australia</td>
<td>7.12</td>
</tr>
<tr>
<td>Bolivia</td>
<td>1.55</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>1.35</td>
</tr>
<tr>
<td>Burma</td>
<td>1.45</td>
</tr>
<tr>
<td>Chile</td>
<td>1.16</td>
</tr>
<tr>
<td>Cyprus</td>
<td>1.79</td>
</tr>
<tr>
<td>Denmark</td>
<td>1.40</td>
</tr>
<tr>
<td>Ecuador</td>
<td>1.23</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>1.05</td>
</tr>
<tr>
<td>Finland</td>
<td>1.43</td>
</tr>
<tr>
<td>France</td>
<td>1.03</td>
</tr>
<tr>
<td>Greece</td>
<td>1.08</td>
</tr>
<tr>
<td>Hungary</td>
<td>1.36</td>
</tr>
<tr>
<td>Ireland</td>
<td>1.07</td>
</tr>
<tr>
<td>Cambodia</td>
<td>1.08</td>
</tr>
<tr>
<td>Laos</td>
<td>1.09</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1.46</td>
</tr>
<tr>
<td>Mexico</td>
<td>1.20</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>1.19</td>
</tr>
<tr>
<td>Poland</td>
<td>1.18</td>
</tr>
<tr>
<td>Portugal</td>
<td>1.12</td>
</tr>
<tr>
<td>Romania</td>
<td>1.29</td>
</tr>
<tr>
<td>South Africa</td>
<td>1.53</td>
</tr>
<tr>
<td>South West Africa</td>
<td>2.71</td>
</tr>
<tr>
<td>Spain</td>
<td>1.54</td>
</tr>
<tr>
<td>Turkey</td>
<td>1.84</td>
</tr>
<tr>
<td>U.S.S.R.</td>
<td>2.37</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>2.22</td>
</tr>
<tr>
<td>Uruguay</td>
<td>1.19</td>
</tr>
<tr>
<td>Venezuela</td>
<td>1.28</td>
</tr>
<tr>
<td>Yugoslavia</td>
<td>1.03</td>
</tr>
<tr>
<td>Zambia</td>
<td>1.26</td>
</tr>
</tbody>
</table>

Note: LAC countries are underlined.

Approach to a Food Strategy

5. To the extent that in each country there is a trade-off between allocating resources to poor peasants on the one hand and commercial farmers on the other,
it might make sense to single out those countries where the main emphasis ought to be placed on food expansion and those where the main effort should go toward increasing food output. The above table shows 23 LDCs (out of which 20 belong to the Bank Group) where efforts to help agriculture should clearly emphasize welfare rather than output. Several of these countries are in the LAC region (Bahamas, Barbados, El Salvador, Haiti, Jamaica, Peru, Trinidad & Tobago). In these countries, our strategy should be aimed at two objectives:

(i) rural development with a welfare objective;
(ii) lending in other areas with an economic growth objective.

6. Conversely, in the countries listed on the right hand side (those with more than one acre of arable land per person), it would make sense to focus more on output expansion. In the LAC region, these countries include Argentina, Bolivia, Chile, Ecuador, Mexico, Nicaragua, Uruguay and Venezuela. Some of these countries may be erroneously listed, owing to inaccurate estimates of "arable land". Off hand, in low income countries (Bolivia, Ecuador, Nicaragua) we might continue to lend for welfare as well as for primarily economic purposes.

7. Combining the tables on population pressure and on arable surface, it appears that among the countries listed on the table in paragraph 3 (making up 80 percent of the world's arable land), there are several LDCs that (a) belong to the Bank Group, and (b) have relatively abundant arable land per capita:

Argentina
Burma
Mexico
Spain
Turkey

Brazil, with .81 acres of arable land per person falls into an intermediate category where some welfare-oriented rural projects as well as production-oriented projects would be justified.

8. Obviously, this is a very crude approach, but perhaps one that might help clarifying our objectives, world-wide and by country, when dealing with agriculture and rural development. The most obvious shortfall of this analysis is the concept of "arable land". An acre of arable land in Mexico or Turkey may be bereft of development potential, while an acre of land in the Middle-West may hold tremendous production potential.

9. Should this approach be found sensible, we might try to incorporate quality differences between "arable acres" around the world. But no matter what list of countries emerges out of such refinements, such a list would provide a useful guideline for Bank policy.
### ARABLE LAND (square miles)

<table>
<thead>
<tr>
<th>Country</th>
<th>Arable Land (square miles)</th>
<th>Country</th>
<th>Arable Land (square miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>34,250</td>
<td>Cuba</td>
<td>7,568</td>
</tr>
<tr>
<td>Albania</td>
<td>1,924</td>
<td>Cyprus</td>
<td>1,661</td>
</tr>
<tr>
<td>Algeria</td>
<td>28,560</td>
<td>Czechoslovakia</td>
<td>20,825</td>
</tr>
<tr>
<td>Angola</td>
<td>3,367</td>
<td>Denmark</td>
<td>10,693</td>
</tr>
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<td>Argentina</td>
<td>75,600</td>
<td>Dominican Republic</td>
<td>4,161</td>
</tr>
<tr>
<td>Australia</td>
<td>136,850</td>
<td>Ecuador</td>
<td>11,342</td>
</tr>
<tr>
<td>Austria</td>
<td>6,592</td>
<td>Egypt</td>
<td>10,122</td>
</tr>
<tr>
<td>Bahamas</td>
<td>48</td>
<td>El Salvador</td>
<td>2,485</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>35,281 *</td>
<td>Ethiopia</td>
<td>40,685</td>
</tr>
<tr>
<td>Barbados</td>
<td>100</td>
<td>Finland</td>
<td>10,530</td>
</tr>
<tr>
<td>Belgium</td>
<td>3,664</td>
<td>France</td>
<td>61,153</td>
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**Note:** Source, FAO. Arable land and orchards, as distinguished from meadows, pastures, forests, cities and waste areas. A few countries (mostly tropical African) are excluded, owing to unreliable statistics.

* For Bangladesh and Pakistan the "arable land" figure includes meadows and pastures.
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* see page 1 of tables.
Klaas M.S. Haasjes, LCPA2 and Paul Coffin, LCPA1

Bank Policy Paper on Land Settlement: IAC Ag 1 and 2 Contact for Mr. Goering

January 13, 1975

1. By agreement we are nominating as your prime contact for the Bank Policy Paper on Land Settlement, Mr. J. Carlos Collarte, extension 5929, on behalf of both divisions.

2. As you might recall from our participation on December 20, 1974, we are skeptical about the value of such an exercise. Because of the way the Bank operates, we fear that such an exercise will become a straitjacket in the future, even if at present it is not intended to be so. Land settlement cannot be taken in isolation of other national, i.e., income distribution, policies or sectoral development efforts, i.e. land reform. Therefore, their "success" is referred only to the basic framework, which is different in every country and even in every region. So an effort to give policy guidelines is in peril—if flexible enough—of being vague, common sense generalities and, on the other hand, an iron shirt where room for maneuver, so necessary in rural development, is lost.

3. You will find attached more detailed comments from Mr. Greening, which further clarify our position on the issue.

4. The above does not negate the fact that a discussion on the matter is likely to be interesting and useful. Our objection is not to the discussion or study of the issue but to deriving a policy paper from it which, because of day-to-day pressure on projects and programs people, will tend to be used as a "Bible."

JCCollarte: cjb

Attachment

cc: Messrs. Hendry (EAPDR), Vergin (EAPDR), Blaxall (LCPR), Haynes (MPD), Ricciotto (ASPDR), Rowe (WAPDR), Pollan (MPD), Yudelman (AGPD), Burk (EPnP), Greening (LCPA2).
Mr. K. Haasjes
January 10, 1975

Peter Greening

Bank Policy Paper on Land Settlement

1. Reference Mr. Bruce's memo of January 7. Mr. Collarte would be an excellent choice as this Division's contact with Mr. Goering for the writing of the paper. I am interested in the subject, having personally run settlement schemes in the past and having either visited or studied a range of settlement schemes in a variety of countries over the years. My immediate reactions are:

1. I doubt the need for a policy paper because the issues are so complex and I am by no means convinced that the Bank should have a policy, not because I am against having policies, but because in this institution policies tend to become straight gaskets and a source of endless operational problems. I am told that the matter arose in the first place when Board members questioned the differences in costs between settlement projects presented to them. Mr. McNamara volunteered to produce a paper explaining why. If this is the case I would favor a paper on settlement which educates and informs Board members, and would not interpret it as a need for a policy paper.

2. The paper looks as if it is trying to cover far too much ground, and if so, and assuming the job is done well, it will be far too lengthy. Alternatively, if the length is reduced but the list of proposed contents is retained, it will end up as a series of generalizations.

3. The purpose of the paper, as expressed in I (A), is fine, but Mr. Goering then suggests a whole range of sections which read as if he is to produce an operating manual on settlement, which by my definition is not what is wanted. I would, therefore, chop out a great deal of Section II, and probably a lot of IV(E) since it seems to be repetitive.

4. As already mentioned I think the paper should be written for information purposes and not to produce a Bank policy. It should focus quickly on where and how the Bank could get involved in settlement programs and should mention specific countries. It is evident that potential settlement projects vary widely from region to region and the type of projects will also vary widely. For instance, in West Africa there is relatively little potential, unless ways and means are found to improve the carrying capacity of the Sahelian zone (which is a very tough and expensive assignment). Similarly in East Africa there is relatively little potential, except perhaps in parts of Tanzania and Zambia, where there is room for the movement of people into areas presently uninhabitable because of tsetse fly or lack of water. In much of Asia potential is also limited, except in one or two instances such as the colonization of the outer islands of Indonesia and a certain amount of jungle settlement in Malaysia, Burma, etc. On the other hand, the settlement potential in this region is enormous, the biggest single area being of course the Amazon basin (which is about the size of India and justifies a Bank paper all of its own).
5. I could provide opinion (and prejudices) on a range of detail if required but this is best done verbally.

Screening: HP

cc: Messrs. Collarte, Coering, Blaxall
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<th>NAME</th>
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<tr>
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<td>Mr. Goffin</td>
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**Remarks**

No objection to Mr. Goffin's proposal; consequently memo of nomination should be on behalf of both Div.
OFFICE MEMORANDUM

TO: See Distribution Below
FROM: Colin Bruce
DATE: January 7, 1975
SUBJECT: Bank Policy Paper on Land Settlement

1. A decision has been made to prepare within the Bank a policy paper on land settlement. A satisfactory effort in this regard requires that the lessons of past experience with settlement projects supported by Bank (and, if information is available, other organizations) be examined with a view to determining the factors which contribute to "success" or "failure" of settlement activities. One step in preparing the settlement paper is to effectively tap the experience of the Bank and its staff in this regard.

2. At an inter-departmental meeting on December 20, 1974, to discuss how this might be done, it was agreed that one individual in each agricultural division should be designated as the prime contact for Jim Goering of this department, who will have responsibility for this paper. The contact person should be familiar with all of the division's projects with settlement components and, ideally, should be knowledgeable of the range of issues related to agricultural settlement. It is hoped that he could find time to provide background materials in the form of brief written notes and discussions with Jim Goering prior to and during the drafting stage. May I ask that each division submit the name of this individual to Jim as soon as possible.

3. A draft outline, indicative of what such a policy paper might contain, is attached. Any comments on this would be appreciated and should be provided in writing to Jim.

Distribution List:

Messrs. Goffin
ffrench-Mullen
Golan
Haasjes
Parsons
Pranich

Sutherland
van Gigch
Wadsworth
Walden
Walton

Attachment:

cc: Mr. Goering
TJGoering/ssp
TO: See Distribution Below

FROM: Colin Bruce

SUBJECT: Bank Policy Paper on Land Settlement

DATE: January 7, 1975

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(D805, ext. 3495)

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Wadsworth
Walden
Walton

Attachment:

cc: Mr. Goering

TJGoering/ssp
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Messrs. Goffin
ffrench-Mullen
Golan
Haasjes
Parsons
Pranich

Sutherland
van Gigch
Wadsworth
Walden
Walton

Attachment:

cc: Mr. Goering

TJGoering/ssp
Issues in Land Settlement

I. Introduction

A. Purposes of paper
   1. Examine recent history of land settlement, with particular focus on Bank's involvement
   2. Determine lessons of experience
   3. Identify issues of relevance to Bank lending
   4. Suggest guidelines for Bank's future involvement in settlement activities

B. Definitions and concepts
   1. Multitude of types and purposes makes precise definition of settlement difficult
   2. Key feature is movement of people to, establishment in, new or sparsely inhabited lands with agricultural potential
   3. Consistent with Bank's interest, major focus will be upon experience with settlement programs with some extent of Government assistance/guidance

II. The Issues

A. Characteristics of settlement which make them problematic
   1. Outcome is unusually risky
   2. Susceptible to political manipulation
   3. Relatively high capital/labor ratios
   4. Long gestation period
   5. Demanding of qualified manpower
   6. Limited possibilities of generating government revenues
   7. Environmental impacts
B. Objectives of settlement—growth, employment/distribution and compatibility

C. Opportunity costs and employment creation
   1. Financial costs per beneficiary
   2. Cost determinants
      i. Range, quality of social and physical infrastructure
      ii. Efficiency of project implementation
      iii. Degree of settler participation
      iv. Size of holding
   3. Staff requirements per 1,000 beneficiaries?

D. Criteria for income targets

E. Organization for settlement
   1. Separate institutions for policy formulation and project implementation
   2. The regular ministry department vs. the semi-autonomous settlement authority

F. The appropriate tenure form—freehold, leasehold, communal, cooperative, etc.

G. Appropriate planning for employment of the second generation

H. Settlers' obligations for repayment of development costs
   1. A collection mechanism adds to complexity of management
   2. Must be related to realized incomes
   3. Are subsidies justified?
   4. What precedent exists in other agricultural projects?

I. Settler selection
   1. Is agricultural experience essential?
   2. Youth, unmarrieds?
   3. Previous income and asset position
J. Low-cost settlement and rural development

1. Given magnitude of employment creation task, cost-beneficiary must be kept low

2. Is this consistent with Bank's emphasis on more broadly based rural development programs which contain relatively costly components such as health and education?

K. Appraisal methodology

1. Must relate to country's objective function

2. Existing methodology largely neutral with respect to distributional aspects

3. Hence, given Bank's and most member Government's distributional concerns, proposed methodology may be more appropriate

L. Resource inventory, physical planning

M. Rehabilitation of unsuccessful settlement

III. Settlement and the Bank's involvement

A. Post-war settlement activities (short, general)

B. Bank support of settlement

1. By region--Asia, Africa, Latin America

2. Relative to total agricultural lending

IV. Lessons of experience

A. What are appropriate criteria of "success"?

1. Dependent upon settlement objectives

2. Objectives frequently not specified

3. "Success" generally defined in financial terms

B. Results of post-WWII experience generally disappointing

1. Net benefits, ex post, generally below ex ante expectations

2. Organizational difficulties

3. Difficulties in recruiting, retaining qualified staff

4. Inadequate institutional mechanisms for provision of productive inputs, marketing of output

5. In consequence, government support for individual projects frequently has been larger and longer than anticipated
C. Characteristics of "successful," i.e., economically viable, settlement

1. High degree of managerial direction
2. Special implementation authority
3. Emphasis upon cash crop production and market orientation
4. Supportive agricultural research within, or directly accessible to, the scheme
5. Assured market outlets
6. Qualified, motivated technical staff
7. Provision of essential social services
8. Secure tenure or clear promise thereof
9. Exceptional managerial performance
10. All relatively costly on per beneficiary basis

D. The low-cost, largely spontaneous, settlements

1. Frequently meet neither employment nor income objectives adequately
2. Perpetuate human misery
3. Contribute to frequently irreversible damage to natural resource base
4. Do successful, low-cost schemes exist?

E. In summary

1. Instances of "success" are limited among high-cost schemes; apparently even smaller proportion of low-cost schemes are successful
2. High-cost is no guarantee of success
3. In nearly all countries role of settlement has been small relative to other approaches to meet growth, income and employment objectives
4. A broader criterion of "success," embodying distributional aspects, is warranted and probably would have effect of increasing number of projects classed as successful
V. Conclusions and Recommendations

A. Growing population pressure in already-settled areas implies that land settlement in a number of countries will continue to be espoused as means to employment and growth objectives.

B. Traditional approaches to settlement have been either too costly or ineffectual to adequately meet these objectives.

C. Careful project selection and design may be expected to result in lower-cost settlement

1. Project components in the early phases of the project should in general be limited to those which:
   i. provide physical access
   ii. establish sound land use plans and clearly-defined plot boundaries
   iii. provide essential technical services
   iv. initiate conservation works

2. At later phases, expand the technological package, add off-farm production inputs and marketing services; increase the range and quality of social services

3. Delay to maximum extent possible installation of costly physical and social infrastructure

4. Provide for the maximum participation of settlers in the development phase

5. Employ effective low-cost extension techniques

6. Examine opportunity cost of all resources employed in settlement. Finance may be less limiting than, e.g., qualified managerial, technical manpower

7. Consider capital-intensiveness as one criterion of project choice

8. Apply, where possible, project appraisal methodology which takes distributional aspects into account

D. Stress labor-absorption in project design

1. Labor-intensive cropping systems

2. Backward and forward linkages

3. Plan residential areas sufficiently large to provide wide range off-farm employment opportunities and social services

4. Maximum feasible settler involvement in development phase
E. Efficient project implementation

1. Qualified and experienced management and staff are essential

2. Provide an organizational structure which will ensure coordination at all levels.

3. Where possible, strengthen existing organization in preference to establishment of new machinery

F. Etc.

Annexes
Mr. Anandarup Ray

January 6, 1975

Colin Bruce

Review of Agriculture and Rural Development Sector Work

1. The FY75 work program of Agricultural Economics Unit of the Agriculture and Rural Development Department, CPS, includes a thorough review of how best to carry out agriculture and rural development sector work. This is about to commence and will be completed by the end of FY75. This memorandum is in the nature of a progress report.

2. The end result of the above-mentioned review will be new Guidelines for Agriculture and Rural Development Sector Work to replace the existing "Guidelines for Agricultural Work by Economic and Sector Mission" issued on April 2, 1974. The latter reflected the need to respond to the Bank's changing objectives as set forth in Mr. McNamara's Nairobi speech. The new review will explore in greater depth the most efficient ways of implementing the approaches to rural development as contained in "Rural Development and Bank Policies: a Progress Report", December 2, 1974.

3. The following is a list of Grey Cover Agricultural Sector Survey Reports:

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<td>PA 52A</td>
<td>August 19, 1970</td>
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<td>Malaysia</td>
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4. The following two reports were not called Agricultural Sector Surveys, but covered a large part of the ground traditionally covered in such reports:

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<td>(Land &amp; Water Resources Sector Study)</td>
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</tbody>
</table>
5. In addition, the Peru Sector Survey Report is in Green cover and will shortly be put in Grey cover. The Thailand Sector Review report did not get beyond the Green cover stage.

6. Attached is a copy of Table 15 taken from "Rural Development and Bank Policies: A Progress Report", which gives information about the FY75 agriculture and rural development sector work, but it must be emphasized that the regions' program of sector work is a very fluid one and the position changes rapidly. No projections beyond FY75 are yet available. Moreover, the following quotation from paragraph 3.36 of the Rural Development Policy Paper is very relevant here:

"It is not feasible to present a fully quantitative picture of sector work because some sector work is done on other kinds of missions--reconnaissance, appraisal and supervision. Thus, it is difficult to find a numeraire to measure the output of varied sector work activities. Table 15 gives a breakdown of the FY75 sector work by regions as indicated from sector, sub-sector and some special missions. This shows a program of 14 agricultural and rural development sector reviews, five sub-sector reviews and six special missions. The work program for the next four years is being developed. In addition to the Bank Group programs, FAO plans to have "Country Perspective Studies" in Malaysia, Burma and the Sahelian countries of West Africa. Work is just ending in Iraq, Iran, Pakistan and Bangladesh. The ILO is also planning rural development country studies under its World Employment Program. The Bank and FAO are now actively coordinating their sector work and have established informal cooperative arrangements with the ILO in order to avoid duplication."

7. Even before the Nairobi speech the nature of sector work was changing--sector review missions were becoming smaller, their reports less comprehensive, less fact finding and more concerned with policies and distributional aspects. A good example of this was the Kenya report. Following the Nairobi speech, the agricultural sector guidelines referred to in paragraph 2 were issued. It is too soon to see what effect this has had as only one report—that on Tanzania—has been able to fully take account of the Guidelines. It is generally agreed that the Tanzanian report has, to a large extent, measured up to the post-Nairobi Speech Guidelines and is a big improvement on the older type of reports.

8. Until we have carried out our study in depth and come up with fresh guidelines for the best way to undertake agriculture and rural development sector work, it is not possible to suggest criteria for evaluating sector reports and ways and means for monitoring sector work. In any case, to do this in any quantitative, meaningful way is going to be extremely difficult.

Please let me know if there is any other information you would like at this time.

cc: Messrs. Yudelman, Darnell, Veraart
C: Bruceissap

Attachment:
AGRICULTURAL DEVELOPMENT AND THE PROBLEM OF POVERTY

The attached copy of an article written by Dr. Sen is being distributed at his request in connection with the forthcoming discussion of the Report "Rural Development and Bank Policies: A Progress Report" (No. 588).

Distribution:

Executive Directors and Alternates
President
Senior Vice President, Operations
Executive Vice President and Vice President, IFC
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Two hundred years back when Adam Smith undertook an inquiry into the wealth of nations almost all nations were very poor judged by present standards but the disparity between them was relatively small. Since then a number of nations have become wealthy but many continue to be poor in spite of phenomenal advance of science and technology and the disparity between them has increased enormously. The poverty of nations has now rightly become a subject for intensive inquiry by economists. But disparity within many nations is often worse than disparity between nations. Such disparity is also greatest within some of the poorest nations. The gap between the affluent people of the world, who are able to take advantage of modern science and technology, and the very poor, who cannot, is growing so fast that they may eventually become members of two different species, as it were, unless effective steps are taken to reverse the trend.

The problem of development today is not merely to make poor nations rich but also to alleviate poverty and reduce disparity within each nation.

The Nature of Poverty

Poverty is both an absolute and relative concept. As an absolute concept, poverty may be defined as a short-fall from whatever is socially accepted as the "minimum level of adequacy". The concept of minimum level of adequacy may, however, be defined in more than one way. To the 19th century proponents of the "iron law of wages" it meant the "minimum subsistence level" measured in terms of some minimum supply of physical necessaries, e.g. food, clothing, shelter, etc. essential for sheer survival. To many liberal economists, it meant the "minimum
standard of living” that was considered essential by the wage earning classes of the society and included not only the physical necessaries covered by the “minimum subsistence level” but also a number of what were called conventional necessaries. To many modern economists, the “minimum level of adequacy” means the minimum level which provides adequate opportunity for a reasonable development of the physical and mental faculties of the people. It goes beyond the “minimum standard of living” as defined above to include such goods, services and facilities as are considered essential for a minimum socially acceptable level of physical as well as mental development.

For convenience, we may call short-fall below the first kind of minimum (namely, subsistence level) as “extreme poverty”, below the second kind of minimum (namely, standard of living) but above “extreme poverty” as “serious poverty” and below the third type of minimum adequacy but above “serious poverty” as “moderate poverty”.

The first kind of minimum is today rightly considered too low to merit consideration as a policy criterion, while the third is still no more than a “holy grail” for most developing countries, although it may be within the reach of some developed countries. For all practical purposes, “absolute poverty” may be defined as a short-fall from the second kind of minimum, namely, minimum standard of living, in most developing countries.

As regards the relative concept, whatever be the “minimum level of adequacy” acceptable to a particular society, if the standard of living of the affluent fractile of the population is so much higher than that of the poor fractile as to cause serious social unrest, the problem of “relative poverty” may be said to be serious. Relative poverty can be most conveniently measured in terms of the proportion of the income level of the poorest (or a representative poor) fractile of the population to that of the richest (or a representative rich) fractile. The fractile is to be determined in the light of the situation obtaining in the particular country or set of countries under consideration.

**Measures for Alleviation of Poverty**

In the ultimate analysis, the only way in which poverty can
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be alleviated is to set in motion a process which will increase
national income in general and ensure a less unequal distribution
of it. Under certain circumstances, the latter may automatically
accompany the former but under other circumstances it may not.

In fact, most of the economic measures, which help increase
national income, usually operate through a “pull from the above”
and tend to increase the income of the more advantageously
placed social groups relatively to that of the less advantageously
placed social groups, especially in market economy countries.
Even the usual diffusion effects which may increase the absolute
level of income of the latter may not help reduce the relative
disparity at least in the short period and the usual egalitarian
measures like progressive taxation advocated by liberal economists
tend to be so ineffective in most developing countries, where rigid
social stratification obtains, that at best they only dampen the
growth of disparity and rarely succeed in reducing it.

It is mainly through such social measures as may create or
stimulate a strong “push from below” to supplement the usual
economic measures for generating a “pull from above” that the
balance may be tilted in favour of the less advantageously placed
groups, especially in market economy countries.

Further, alleviation of poverty depends not only upon what
happens to the growth and distribution of national income but
also what happens to the growth and distribution of population,
either by birth or by migration. It is not uncommon to find that
the beneficial effect of an increase in income in certain area or
community has, within a relatively short period, been nullified
by the additional population that it may have attracted in the
absence of appropriate countervailing actions.

Role of Agricultural Development

Other things, especially the population situation, remaining
the same, agricultural development should, prima facie, help
alleviate absolute, although not necessarily relative poverty, to the
extent that it increases national income. But there may be cir-
cumstances, e.g. introduction of certain types of labour saving
innovation like, say tractor, on a large scale especially in an
inegalitarian social structure, where even this may not happen,
at least during a time period which is not sufficiently long. Primary employment may fall due to the introduction of the labour saving innovation while the increase in secondary and tertiary employment expected to be induced by it may take a long time to be generated and may, on account of social and economic immobility, even completely bypass those who lost their employment in the first place. Even if total volume of employment may not decrease, the situation regarding absolute poverty may still deteriorate under such circumstances.

But if agricultural development takes a form which does not involve sudden and large scale saving of labour e.g. biological innovations like high yielding varieties, chemical innovations like the use of fertilizers and resource development measures like land reclamation and irrigation, it is likely to alleviate absolute poverty in almost all cases and relative poverty in certain cases.

This does not mean that such labour saving innovations are to be discouraged. They are often essential for deriving the full benefit from the other kind of innovations. Further, they are necessary if productivity per capita of labour has to be stepped up. To the extent that they reduce the drudgery of manual work, they also help improve the status and outlook of the labourers and instil some ambition in them.

But if such labour saving innovations follow or at least accompany, instead of preceding, non-labour saving innovations, their adverse effects on unemployment and poverty in the short term will be reduced while the long-term effects will be certainly beneficial. If, however, the phasing is the other way about, the short-term adverse effects on unemployment and poverty may be such as to engender serious social unrest, which may even thwart the supposed long-term economic benefits from being realised. The difficulties will be less if the man-land ratio is low and the rate of development in the non-agricultural (including export) sector high and greater if the man-land ratio is high and the rate of development in the non-agricultural sector low. There is, therefore, a need for being selective about the type as well as timing in introducing such innovations.

In most countries, the poorest strata of the society comprise landless labourers and very small farmers. In many developing
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countries, a significant proportion of such landless labourers as are not physically fit due to health and other reasons for strenuous work is still in the state of "extreme poverty". The adults of this group are often beyond redemption and it is mainly their children who may be able to benefit adequately from development programmes. The adults have also no incentive for restricting the number of children as the latter have a high rate of mortality due to undernourishment and ill health while the survivors can at a fairly young age do the same kind of light and unskilled work that the adults themselves do. As a group they have not been able to derive much benefit out of a development programme like the "new agricultural technology", even in areas where it has led to a substantial increase in the wages of heavy manual or skilled workers among the landless labour group itself.

In the latter areas the heavy manual or skilled workers as well as the very small farmers do not usually face "extreme poverty" but a substantial proportion of them are still in the state of "serious poverty". Wherever the "new agricultural technology" in the form of high yielding varieties, chemical fertilizers, irrigation, etc. has come they have derived significant benefits by way of increased employment and income and some of them are already on the way up from the stage of "serious poverty" to "moderate poverty", especially where there is a reasonably assured supply of water. Many small farmers in these areas have substantially improved their position, especially during the last three or four years.

But in areas where water supply is either scanty or very uncertain, there is extensive poverty of the first two types and there is a tendency for the poor people, especially landless labour, from these areas to migrate to areas with assured water supply, depressing the wage rate for the local labour, or to urban areas adding to the slum population, with serious social and political implications in both cases.

It is, therefore, not merely developments in the agricultural sector but also in the non-agricultural and population sectors which have to be considered together in formulating policies and programmes which would help alleviate both absolute and relative poverty.
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The Indian Experience

It may be perhaps useful at this stage to illustrate the above points by some examples from India with which I am most familiar and which may be also representative of some of the neighbouring countries. In India, the Fifties were a period which was characterised not only by a countrywide effort for economic development leading to an increase in national income by 42 per cent and per capita income by 18 per cent but also by measures for a planned development of agriculture based largely...
on traditional techniques and for land reforms. During this decade, agricultural production went up by 42 per cent and there was a substantial reduction of inequality in the distribution of holdings "owned" by farmers (see Figure 1). There was also some, although much less, reduction in inequality in the distribution of "all" holdings operated by farmers on ownership as well as lease basis. Further, the inequality in the distribution of income among farmers was substantially less than that of area owned by them in 1961-62 (see Figure 2).1 There is also

FIGURE - 2.

DISTRIBUTION OF TOTAL CULTIVATED LAND AND HOUSEHOLD INCOMES OF THE SELF-EMPLOYED FARMERS IN INDIA IN 1961-62

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1. "Inequalities in the Distribution of Holdings and Incomes of the Farmers in India in 1961-62" by N. V. A. Narasimham; Agricultural Situation in India (Sept. 1969).
other evidence, e.g., National Sample Survey data, to indicate that there was a perceptible reduction in both absolute and relative poverty in rural areas during this period. Still a very large number of people continued to suffer from "extreme" as well as "serious" poverty at the end of the decade. The situation was worst in areas which lacked irrigation facilities and/or had a high man-land ratio.

The poorest decile of the rural population had to subsist on 30 paise (or 6 U.S. cents at the 1961 rate of exchange and prices) per day. The poorest 2 deciles (and possibly part of the 3rd decile) of the rural population continued to be in the state of "extreme poverty" and the 3rd to 7th deciles (and possibly part of the 8th decile) in the state of "serious poverty" as defined above.

The position regarding relative poverty was no less serious. The consumption expenditure (instead of income taken as a measure of standard of living) of the richest 5 per cent was about 12 times that of the poorest 5 per cent. The average quantity of cereals consumed per day per capita was 2 lbs. (with substantial amount of other food) for the former as against 0.6 lbs. (with only small quantities of other food) for the latter. The position was very much worse at the extremes. The consumption expenditure of the richest terminal population was roughly 130 times that of the poorest terminal. The disparity in income was obviously even greater.

The overall position was more or less similar for the urban population. But the level of consumption expenditure of the urban population was 25 to 35 per cent higher than that of the corresponding fractiles of the rural population and this tended to encourage to some extent migration from rural to urban areas, especially in years of drought, and add to the problem of slums, in spite of the traditional ties of the Indian villager with his village.

The Impact of "New Agricultural Technology"

While Indian agriculture was more or less stagnant during the early Sixties with the general pattern continuing as above,
the latter part of the decade was characterised by the introduction of the "new agricultural technology" (including the high yielding varieties), mainly derived from crop based research. This brought about a sharp change in the position of areas and farmers who were more advantageously placed, especially in regard to irrigation. They were able to multiply their incomes several times whereas areas and farmers who were not so favoured continued to have the old rates of low yield and low income and the disparity between the two increased very considerably.

The increase in disparity was much more as between farmers in irrigated areas and un-irrigated areas than between big and small farmers within either irrigated areas or unirrigated areas. Since the new technology was basically biological and chemical, rather than mechanical in nature, it did not give rise to such an economy of scale as to place the small farmer in a substantially disadvantageous position as compared to the big farmer. In fact, in the case of a crop like rice, the high yielding varieties of which required intensive use of labour and very close supervision, the big farmers having more than 15 acres of land under such varieties appeared to face some handicap. The result was that except for very small farmers, say, having less than one acre of land, and crop sharers, who should really be classified with landless labourers rather than with farmers, there was nearly parallel increase in the real income of all farmers, big and small, on the average of the order of 100-200 per cent or even more, depending upon the area and the crop pattern.

So far as labourers were concerned, however, the position differed very much from area to area. For instance, between 1962-63 and 1967-68 in real terms wage payments to hired labour by farmers went up by 73 per cent and wage rates by 16 per cent in Ludhiana (Punjab) and by 90 per cent and 12 per cent in West Godavari (Andhra) respectively. On the other hand, wage payments declined by 11 per cent although wage rates went up by 16 per cent in Thanjavur (Tamil Nadu) and both showed a marked decline, the former by 27 per cent and the latter by 17 per cent in Burdwan (West Bengal),3 where there was an unduly

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large proportion of landless labourers and share croppers to the total rural population and there was a tendency on the part of many land owners to take to self cultivation after the introduction of the new technology and agitation by labourers for higher wages. In spite of the substantial increase in the income of not only big and medium but also of small farmers there was an increase even in absolute poverty in Burdwan and Thanjavur. This had serious political and social repercussions as may be evident from the voting patterns in these areas and reports of increase in lawlessness.

The increase in disparity has been, however, much greater as between the irrigated areas and the non-irrigated areas, of the order of 200 to 300 per cent or even more in terms of the real income of farmers, and this has again increased relative poverty, leading to an increase in social discontent, in spite of the fact that the rains were reasonably good during the last two years. The disparity is likely to be worse in years of drought which recurs once in 3 to 5 years in different areas of the country.

It would appear that agricultural development measures of the traditional type which were followed in India in the Fifties and were largely "programme or scheme" based tended to reduce "relative poverty" to some extent, although the rate of growth was rather slow. The agricultural production effort of the type which has been introduced in the late Sixties with the advent of the "new technology" largely based on "crop-wise" research has made possible a much higher rate of growth wherever it has been found practicable. But it has also led to an increase in relative poverty even in the advantageously placed (mainly irrigated) areas, not to speak of growing disparity between these and unirrigated areas for which no such technology is yet available. In some of the latter areas, even absolute poverty has increased due to the depressing effect on prices caused by higher production in the former areas.

Need for Comprehensive Effort

It would, therefore, appear that agricultural development by itself is not enough to alleviate relative poverty and sometimes even absolute poverty. It is, of course, an indispensable measure because without agricultural development there can be no subs-
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tantial increase in income and employment in rural areas. But agricultural development must be supplemented by measures for population control on the one hand and development of the non-agricultural sector (including trade) on the other hand.

If agricultural development is to make a real impact on the problem of poverty simultaneous development of the non-agricultural sector is important from another standpoint. Measures for controlling population, when they become really effective, are likely to have a depressing effect on demand for agricultural products and therefore on agricultural production. This can be and should be counteracted by the development of the non-agricultural sector, the generation of higher per capita income and the resultant increase as well as diversification of demand. The development of the non-agricultural sector, especially of certain types of light industries on a decentralised or dispersed basis as has happened in, say Japan, will also provide some of the forward and backward linkages needed for agricultural development and help transfer some of the rural poor to more remunerative and modernising occupations, if special arrangements for training can be made.

Further, agricultural development must be accompanied by land reforms and other social measures which will help diffusion of productive capacity and also of income. The experience of India shows that where there is insecure tenancy, not only does the growth of agricultural production tend to be slow but both relative and absolute poverty tend to be more persistent. In the absence of the land reform measures which were introduced in India in the Fifties, however imperfect they may have been, the introduction of the “new agricultural technology” in the Sixties would have been followed by much greater disparity and social strain. The overall pattern of distribution of “owned” holdings remain more or less the same at the end of the Sixties as at the beginning but there has been some eviction of tenants by land owners in a few states and forcible occupation of some holdings by the landless in one state.

If absolute poverty is to be alleviated substantially, if not obliterated, there has to be comprehensive effort not only for economic but also for social development. Development of one
sector of the economy like agriculture or even of the economy as a whole is not enough. Positive action for social development is indispensable. The need for a comprehensive effort has been recognised in principle in Indian plans as will be evident from policy statements and financial provisions regarding social services like community development, welfare of backward classes, family planning, health, education, etc. But in practice due to paucity of resources, demand for other urgent needs and pressure for directly income generating schemes, the total resources which could be allocated for these services turned out to be very inadequate.

**Dualism**

Most of the developing countries, especially their agricultural sectors, are characterised by what is now commonly called “dualism”. The gap that exists between tribal agriculture and settled agriculture and between subsistence agriculture and modernized agriculture, not to speak of the gap between the agricultural and the industrial sectors, in most of the developing countries, cannot be bridged without a total effort at removing the barriers which hinder social as well as economic mobility and providing adequate opportunities for social and economic advance to the deprived sections of the population. These have to include inter alia better nutrition for the children to ensure that they do not grow up with impaired brain and body, better education for the youth to enable them to take advantage of modern science and technology and provision of social and “economic ladders” like guidance and servicing institutions, credit facilities, vocational training and opportunities, geographical and social mobility, etc. Bulk of the people who are at the stage of “extreme” or “serious” poverty belong to backward sections of the society like tribals, depressed classes and castes, the under-nourished and the illiterate. They will not be able to take advantage of the fruits of modern science and technology unless specially helped. There is today a rapidly growing gap between them and the more advantageously placed sections of the community.

This gap cannot be closed by mere technological innovations based on, say crop research. It would necessitate in addition
special "area based" technological as well as social research and
development effort. In view of the fact that even after the fullest
development of irrigation (e.g., from present 20 per cent to
maximum possible 50 per cent of cultivable area in India say,
after another 30 years), a very large proportion of the rural
population will have to live and work in unirrigated areas, the
needs of the latter will have to be paid special attention in pro-
grammes of both "crop based" and "area based" research.

This is not to denigrate "crop based" technological research
and development. They help very greatly in alleviating un-
employment and poverty and encouraging intensive cultivation
practices and multiple cropping and must be continued and
stepped up. But mere technological effort at increasing agricul-
tural production may not by itself give more than a temporary
spurt. History is replete with instances where a specific effort at
agricultural development e.g., introduction of irrigation or a new
variety or crop led to a welcome but temporary increase in
overall production. But the increase in per capita income per-
sisted only for a short period either because the higher production
could not be sustained for a lack of demand or because the higher
income attracted additional population either by birth or by
migration and after some time there was a relapse to the earlier
level of low per capita income and poverty.

Conclusion

A sustained improvement in per capita income and standard
of living and a lasting alleviation of poverty are possible only
if there is complementary development of the agricultural as well
as industrial and trading sectors on a continuous basis, coupled
with efforts at keeping the population within reasonable limits
and bringing up the children, who have been born in the depressed
sections of the society, especially those facing "extreme poverty",
in such a way as to enable them to take adequate advantage of
the fruits of modern science and technology.

The main steps that need to be taken are:

(i) supplementing economic "pulls from above" by
social "pushes from below" through a comprehen-
sive programme for socio-economic development,
(ii) balancing, while intensifying, "crop based" technological research and development effort by "area based" technological as well as social research and development effort, keeping in view the special needs of un-irrigated areas in particular,

(iii) helping and inducing movement, especially of the rural poor, from traditional to modernising occupations and environments,

(iv) stepping up family planning (along with public health and nutrition) effort, especially among these groups,

(v) concentrating attention on the physical and mental development of the children and youth, especially of the "extreme" and "seriously" poor, and providing to them appropriate "ladders" for both economic and social advancement, and

(vi) using part of the surplus or additional food produced in developed as well as developing countries to supplement other resources for providing—
(a) specially directed food aid to meet the "nutrition gap" of the children,
(b) food scholarships to reduce the "education gap" of the youth and
(c) rural works to provide supplementary employment to the adults belonging to groups suffering from "extreme" and "serious" poverty.

The policies and programmes of national as well as international planning and aid agencies need to be re-oriented, especially in this, "The Second Development Decade of the U.N.", so as to give special attention to the question of development of the poorer classes within each country, especially those suffering from "extreme" and "serious" poverty.

This is no mere soft hearted humanitarianism but quite hard headed economics. For, otherwise the so called economic gains derived from a narrower development approach are likely to get nullified sooner or later through the social turmoil which the present "growing gaps" are bound to generate.