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(c) A universal road-grader.

(d) More generally a single-sided ditching blade rear-mounted on the tool-bar of a D5 tractor, followed by a light finishing pass with a wheel-tractor mounted bund-forming blade.

4. Alternative (d) is probably the most generally applicable, but may require some developmental work on blade design for particular soil situations. The rate of progress either for initial ripping or for bund-forming is about 3 km/hour, or $1\frac{1}{2}$ km/hour for total heavy tractor time. For 20 m spacing of bunds (i.e. 20 m terrace width) the length of bund per acre is 200 m, and the gross heavy tractor time per acre is less than 30 minutes, with 15 minutes of light wheeled tractor for bund finishing.

5. It is noted that in completion of land shaping the initial 40 cm to 60 cm high bund is generally reduced to a final height of about 30 cm, partly by consolidation and erosion in the first monsoon season. The trench paralleling the bund may be filled during final land shaping, or may be adapted to form a secondary field channel.

6. The alignment of the bunds to give the required grade is determined on the 6" or 12" contour plans, which are the basis for design of land shaping for the chak as a whole. The alignment is then staked in the field. At the same time a supplemental line of levels is run down the centre of each terrace strip, and a profile balancing cuts and fills longitudinally is computed and staked to guide levelling after bund-forming.

DRAFT
CBRUCE
August 14, 1974

RURAL DEVELOPMENT POLICY PAPER

REVISED OUTLINE OF PART IV

IV - THE BANK GROUP APPROACH

A. Past Trends

B. The Way Ahead - An Action Program

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IV - THE BANK GROUP APPROACH

A. Past Trends

1. The major thrust of the Bank's operational activities in rural areas has been in lending for agricultural development. Both the volume and tempo of agricultural lending have increased substantially since the first agricultural loan was approved in 1948. Up through 1960, 33 projects for US\$175.9 million were processed. In the next 5 years, the same number of projects as in the previous 13 years were processed, but almost three times as much money was involved. In 1966-1970, 93 projects which represented US\$1,207.6 million were approved. A total of 118 loans were signed in 1971-1973 for the sum of US\$1,793.2 million. In 1974 alone 51 loans were approved for US\$955.9 million.

2. Not only have the number of projects and amount of money involved increased in absolute terms, but also the relative importance of agriculture lending has grown considerably. From 1948-1960, agricultural projects represented only 17% of total Bank projects and 6% of total money lent. In the decade after 1960, agricultural involvement increased to 21% and 15% respectively. In 1971-1974, agricultural projects reached 28% of total IBRD/IDA projects and 21% of total lending.

3. In recent years, the Bank's agricultural lending program has been subject to an increasing degree of diversification. Since 1948, but in particular in the early 1960's, the emphasis was on basic irrigation infrastructure. The shift since the mid-1960's toward financing on-farm activities can be observed by the noting the increasing percent of loans going to livestock, crops and credit. Diversification has been especially rapid in the last two years, as the Bank has extended its in-

volvement in area development, agricultural industries, fisheries and forestry. The Bank has also recognized the importance of agricultural research both in individual projects as well as supporting international research institutions. In addition, individual projects are becoming more comprehensive in nature and include not only several agricultural components, but also some non-agricultural elements such as rural roads, training and research and less frequently, health, flood protection, markets, and water supply.

4. With respect to the poorest 40%, precise information does not yet exist on Bank lending directed toward this target group. However, an indication of the Bank's basic success in dealing with rural development can be obtained by looking at the factors treated below and which include average size of holdings, groups of countries by region and income, average income of beneficiaries and subjective list of rural development projects.

5. Since a strong positive correlation exists between size of farm and income, the trend toward Bank projects oriented toward small farmers implies an increasing concern with rural development. As an example, between 1968-1972, the percentage of agricultural projects wherein the participating farmers owned under 5 hectares rose from 17% to 50% and for farmers owning under 10 hectares the percentage rose from 37% to 67%. At the other extreme, the percent of projects wherein participating farmers owned over 100 hectares declined from 27% to 21% and for those owning over 1,000 hectares from 17% to 4%.

6. The changing share of Bank agricultural lending going to various regions provides a somewhat ambiguous indication of possible concern with rural poverty. The fact that the proportion of funds going to Latin America and the Caribbean has declined from 37.3% in FY1967-68 to 23.4% in FY1969-74 must be balanced against the increase during the same period from 10.5% to 21.2%

going to the other relatively high income area of Europe, Middle East and North Africa. Likewise the increased shares going to the two African regions since FY1964-68 must be balanced against the decreased share accruing to the other poor region, namely Asia. However, if countries are grouped by per capita GNP not by region, the Bank appears to be increasingly oriented toward the poorer countries. Countries whose GNP averaged less than US\$150 per capita received 22.5% of all funds lent for agriculture in FY1964-68, but 38.2% in FY1969-74. The proportion going to countries with per capita GNP of \$151-\$375 increased slightly during the same period, while countries with per capita GNP over \$376 experienced a marked decrease in their share.

7. A list has been compiled for 1968-1974 of all the agricultural projects that were judged to be directly beneficial to individuals in the poorest 40% in each country. The number of such projects, which average 48% of all agricultural projects and have increased at approximately the same rate as agricultural projects in general, has grown from 8 in 1968 to 23 in 1974, while the amount involved has likewise risen with agriculture as a whole from US\$51.9 million to US\$498.9 million. The lack of a discernable upward trend in the share of so-called rural development projects in total agricultural projects implies that although increasing amounts of money and attention have been directed toward the poorest 40%, the Bank has not been successful in increasing the relative importance of rural development.

8. An analysis of direct farm beneficiaries based on appraisal reports from 51 agricultural projects approved in FY1974 revealed an average pre-project income of \$73 per beneficiary. Although in a

large number of countries, especially in South Asia and Sub-Saharan Africa, lower income groups have incomes around \$30 per capita, the estimate of \$73 per capita indicates that even if the Bank is not reaching the poorest, it is at least reaching the poor.

Table 1: WORLD BANK LENDING FOR AGRICULTURE
(Including share of agriculture in total lending)

| | (1) Number of Agricultural Projects | (2) Amount lent for Agriculture in US\$ millions | (3) Amount lent per project (2)/(1) | (4) Average Amount lent per year in US\$ millions | Agricultural Projects as a % of Total IBRD/IDA Proj. | Lending for Agriculture as a % of Total Lending |
|-------------------------|--|---|--|--|---|--|
| 1948-1960 | 33 | 175.9 | 5.3 | 13.5 | 17% | 6% |
| 1961-1965 | 33 | 484.4 | 14.7 | 96.9 | 16% | 12% |
| 1966-1970 | 93 | 1,207.6 | 13.0 | 241.5 | 23% | 17% |
| 1971-1972 | 71 | 855.5 | 12.1 | 427.8 | 26% | 16% |
| 1973-1974 | 98 | 1,893.6 | 19.3 | 946.8 | 30% | 24% |
| 1974-1978 ^{1/} | 465 | 9,291.5 | 20.0 | 2,322.9 | 35% | 31% |

^{1/} Estimated from projected lending program published by Programming and Budgeting, June 1974.

Table 2: WORLD BANK LENDING FOR AGRICULTURE BY SUB-SECTOR
(Amounts in US\$ millions)

| | General Agr. | Agr. Credit | Area Develop. | Irriga- tion | Livestock | Agr. Indus. | Non-Food Crops | Research | Fisheries | Forestry | Total |
|-----------|-----------------|----------------|------------------|-----------------|-------------|----------------|-------------------|-----------|-----------|-----------|----------------|
| 1948-1960 | \$43.9 %25 | 20.2 11 | 10.0 6 | 85.1 48 | 7.0 4 | 4.7 3 | -- -- | -- -- | -- -- | 5.0 3 | 175.9 |
| 1961-1965 | \$-- %-- | 45.0 9 | 9.7 2 | 383.8 79 | 35.3 7 | -- -- | 2.8 1 | -- -- | 7.8 2 | -- -- | 484.4 100 |
| 1966-1970 | \$15.0 % 1 | 183.2 15 | 100.4 8 | 513.2 43 | 252.4 21 | 19.2 2 | 86.8 7 | -- -- | 21.0 2 | 16.4 1 | 1,207.6 100 |
| 1971-1972 | \$13.5 % 1 | 255.8 30 | 51.6 6 | 201.3 24 | 176.7 21 | 39.6 5 | 95.4 11 | 12.7 1 | 8.9 1 | -- -- | 855.5 100 |
| 1973-1974 | \$24.0 % 1 | 240.3 13 | 272.6 14 | 621.9 33 | 314.9 17 | 204.0 11 | 167.3 9 | -- -- | 28.6 1 | 20.0 1 | 1,893.6 100 |

Table 3: WORLD BANK LENDING FOR AGRICULTURE BY REGION
(Amounts in US\$ millions)

| | <u>Eastern Africa</u> | <u>Western Africa</u> | <u>Asia</u> | <u>EMENA</u> | <u>LAC</u> | <u>Total</u> |
|-------------------------|---------------------------|---------------------------|----------------------|--------------|------------|--------------|
| FY1948-63 | \$ 50.3 | -- | 203.8 | 117.6 | 85.3 | 457.0 |
| | % 11.0 | -- | 44.6 | 25.7 | 18.7 | 100.0 |
| FY1964-68 | \$ 33.0 | 18.0 | 273.1 | 65.0 | 231.7 | 620.8 |
| | % 5.3 | 2.9 | 44.0 | 10.5 | 37.3 | 100.0 |
| FY1969-73 | \$284.7 | 136.6 | 1042.7 | 617.8 | 556.4 | 2,638.2 |
| | % 10.8 | 5.2 | 39.5 | 23.4 | 21.1 | 100.0 |
| FY1974-78 ^{1/} | \$867.5 | 861.0 | 3542.9 ^{2/} | 2025.0 | 1995.2 | 9,291.6 |
| | % 9.3 | 9.3 | 38.1 | 21.8 | 21.5 | 100.0 |

^{1/} Estimated from projected lending program published by P & B, June 1974.

^{2/} Asia can be divided as follows:

| | <u>East Asia and Pacific</u> | <u>South Asia</u> |
|----|----------------------------------|-----------------------|
| \$ | 1,720.4 | 1,822.5 |
| % | 18.5 | 19.6 |

Table 4: WORLD BANK LENDING FOR AGRICULTURE BY INCOME GROUPS

| <u>Per Capita GNP Borrowing Countries</u> | <u>FY64-68</u> | | | | <u>FY69-74</u> | | | |
|---|---------------------------------------|---------------------------|--------------------------------|---------------------|---------------------------------------|---------------------------|--------------------------------|---------------------|
| | <u>Agriculture IBRD & IDA</u> | | <u>As % of AGRICULTURE</u> | | <u>Agriculture IBRD & IDA</u> | | <u>As % of AGRICULTURE</u> | |
| | <u>Number of Proj.</u> | <u>Amount (US\$m)</u> | <u>Number %</u> | <u>Amount %</u> | <u>Number of Proj.</u> | <u>Amount (US\$m)</u> | <u>Number %</u> | <u>Amount %</u> |
| Less than \$150 | 9 | 138.8 | 20.5 | 22.5 | 101 | 1356.0 | 43.7 | 38.2 |
| \$151-\$375 | 18 | 173.8 | 40.9 | 28.2 | 78 | 1069.7 | 33.8 | 30.1 |
| \$376-\$700 | 13 | 251.2 | 29.6 | 40.8 | 30 | 782.1 | 13.0 | 22.1 |
| Over \$700 | <u>4</u> | <u>52.0</u> | <u>9.0</u> | <u>8.5</u> | <u>22</u> | <u>341.8</u> | <u>9.5</u> | <u>9.6</u> |
| TOTAL | 44 | 615.8 | 100.0 | 100.0 | 231 | 3549.6 | 100.0 | 100.0 |

Source: World Bank Atlas 1973.

Table 5: WORLD BANK INVOLVEMENT IN RURAL DEVELOPMENT

| | Number of Rural Development Projects | Amount lent for RD in US\$ millions | Total Agricultural RD Projects as a % of Total Agricultural Projects | Lending for RD as a % of Total Agricultural Lending |
|----------------------|---|---|--|--|
| FY1968 ^{1/} | 8 | 51.9 | 62 | 30 |
| 1969 ^{1/} | 10 | 143.4 | 36 | 39 |
| 1970 ^{1/} | 14 | 218.1 | 42 | 51 |
| 1971 ^{1/} | 15 | 181.0 | 43 | 43 |
| 1972 ^{1/} | 20 | 219.8 | 56 | 50 |
| 1973 ^{1/} | 24 | 374.8 | 51 | 40 |
| 1974 ^{1/} | 23 | 498.9 | 45 | 52 |
| 1974 ^{2/} | 9 | 174 | 16 | 16 |
| 1975 ^{2/} | 24 | 624 | 23 | 35 |
| 1976 ^{2/} | 26 | 618 | 21 | 24 |
| 1977 ^{2/} | 27 | 628 | 21 | 22 |
| 1978 ^{2/} | 30 | 696 | 25 | 25 |

- 1/ Rural development projects are defined here as all those agricultural projects which are directed toward the poorest 40% in each country.
- 2/ Rural development projects are defined here according to the subjective judgement of members of the DPS and Regional Staffs.

Part of Rural Development Policy Paper --
Part IV, Section B

B. The Way Ahead -- An Action Program

(i) Introduction

9. The purpose of this part of Chapter IV is to review what steps have already been taken and to make additional proposals for ensuring that the Bank Group measures up to the targets and policies for rural development as set forth in the Nairobi Speech. Thus, the targets and policies are first restated in an expanded form based on work which has been carried out since the Speech. The 5-Year Lending Program is then analyzed to see to what extent the program is directed towards meeting the targets and fulfilling the objectives. The logic of the analysis indicates that some changes may be required. There then follows a number of sections exploring ways and means of improving the whole range of project planning work which is the means by which it is hoped the targets and policies are reached and implemented.

(ii) Targets and Policies

10. As we have seen in Chapter I, accurate data on which to build a profile of the rural poor is hard to come by, but some steps have been taken to try and remedy this situation. (see Chapter ____). But very broadly about 70% of the population of developing countries live in the rural areas. Within these areas one can distinguish the following poverty groups:

- (a) Small farmers whose land holdings are of a size and quality which should enable them to sustain themselves and their families and to produce a marketable surplus, but who do not;

(b) Small farmers who cannot sustain the farm family without additional land or without supplementary income from non-agricultural activities; and

(c) The landless, some of whom migrate to larger town and cities for off-season temporary employment.

11. The number of landless is not known with any certainty, but they probably number about 100 million individuals. It is estimated that the number of individuals in categories (a) and (b) above amount to around 600 million.

12. The objective stated in the Nairobi Speech was to increase the growth in output of small farms -- defined as those having less than 5 hectares -- from about 2-2.5% now to about 5% by 1985. Further work on this problem has indicated that a more useful numeraire than size of farm is an income one, and in Chapter I, Section (b), a combined absolute and relative income measure is developed. Briefly, it is that the target income group should include (a) all those with a per capita income below one-third of the average per capita income plus (b) all those having incomes less than \$50 a year who are not included in (a). This amounts to nearly 40% of the population in developing countries as a whole. The Target Group are distributed roughly as follows: 18% in Africa, 13% in Latin America and the Caribbean, ___% in all Asian countries and ___% in all other countries [David Turnham to supply missing figures.]

13. During FY74 the Bank Group assisted in financing 51 agriculture and rural development projects in 42 countries with a total project cost of almost \$2 billion. It is estimated that about 12 million people, with pre-project incomes averaging less than \$80 a year, will benefit directly from these projects, and that their annual rate of growth of output at full development will be just over the target rate of 5 percent.

14. During the next five years (FY75-79), our lending to agriculture and rural development should double, supporting projects whose total cost would be about \$15 billion. If the 5-year mix of projects is anything like the FY74 mix, the number of direct beneficiaries could well approach 100 million people in the rural areas, many of whom would belong to the target income group. Increasingly, projects will be directed towards the target income group in each country, but, as pointed out in the Preface, it is not the objective that all projects should benefit solely the target income group. This is so for four reasons: First, although the "trickle down" effects of concentrating on high growth in high productivity areas has not in general succeeded in benefitting the poorer sections of the population, there are cases where this has not been so. Second, some economic and social infrastructure investment is needed for general economic growth and development which can by its nature only have an indirect effect over time on the rural poor. Third, the urban poor have to be considered as well as the rural poor. Fourth, because of balance of payments deficits and/or because of food shortages, it may be necessary in some countries at particular points in time to design projects which will primarily assist those rural dwellers in the upper 60 percent of the income distribution. But it is now approved Bank policy that where such projects are presented to the Board of Executive Directors, the overriding importance of balance of payments or food production considerations must be demonstrated. 1/

1/ See page 13 "Bank Policy on Land Reform" - Recommendation No. 8.

(iii) 5-Year Lending Program ^{1/}

15. During the five-year period FY74-78 it is projected that 465 agricultural projects, (35 percent of the total) involving lending of \$9,291.5 million (31 percent of the total), will receive Board approval. This shows a significant increase absolutely and proportionately over the previous five year period (1969-73), when 179 agricultural projects (27 percent of the total), involving lending of \$2,638.2 million (20.3 percent of the total) were processed and are being implemented. The regional breakdown is as follows:

Table 1: REGIONAL DISTRIBUTION OF AGRICULTURAL LENDING, FY74-78

| | <u>Percentages</u> | |
|------------------------------------|------------------------|--------------|
| | <u>No. of Projects</u> | <u>Value</u> |
| Eastern Africa | 15.9 | 9.3 |
| Western Africa | 17.6 | 9.3 |
| East Asia and Pacific | 14.6 | 18.5 |
| South Asia | 15.7 | 19.6 |
| Europe, Middle East & North Africa | 16.7 | 21.8 |
| Latin America and the Caribbean | 19.5 | 21.5 |
| | <hr/> | <hr/> |
| Total | 100.0 | 100.0 |
| | <hr/> | <hr/> |

^{1/} By the time this paper is presented to the Board six months of FY75 will have passed, but the future is analyzed for the period FY74-78 so as to be in conformity with the 5-Year Lending Program presented to the Board. Dollar figures are current dollars.

16. Not only does the lending program reflect a marked shift towards agriculture, but it also reflects an important change in favor of rural development projects. The following figures should be treated with caution as they reflect judgment about the future, and they are in the process of being revised. Moreover, the definition of what constitutes a rural development project for the purpose of the analysis in this section of the paper differs somewhat from the definition used to analyze past trends.

Table 2: PROJECTION OF WORLD BANK INVOLVEMENT IN RURAL DEVELOPMENT PROJECTS, FY74-78 ^{a/}

| | No. of RD Projects | Amount Lent for RD in US\$ million | RD Projects as a % of Total Agric. Projects | Lending for RD as a % of Total Agric. Lending |
|------|-----------------------|--|--|--|
| FY74 | 9 | 174 | 16 | 16 |
| FY75 | 24 | 624 | 23 | 35 |
| FY76 | 26 | 618 | 21 | 24 |
| FY77 | 27 | 628 | 21 | 22 |
| FY78 | 30 | 626 | 25 | 25 |
| | — | — | | |
| | 116 | 2,740 | | |
| | — | — | | |

^{a/} Based on an analysis and the judgments of DPS and Regional Staff about those projects in the 5-Year Lending Program which will assist the rural poor. Unisectoral projects outside of agriculture are not included.

17. Table 3 illustrates the likely trend in lending for rural development projects. It will be noted that there is a big jump from FY74 to FY75. Thereafter, there is a slight rise in the number of rural development projects, with the number of RD projects expressed as a proportion of all agricultural projects fluctuating; the value of the lending both absolute and relative to total

lending in agriculture also fluctuates. Such fluctuations are bound to occur and need to be considered in relation to the lending of other donors. Moreover, one should discount the usual tendency for the projection of later years to be on the low side relative to projections of earlier years. Thus there is likely to be a somewhat more marked upward trend in the proportion of rural development projects than is reflected in the 5-Year Operations Lending Program. In addition, although there are no figures to illustrate the point, it is likely that the number of beneficiaries in agriculture and rural development projects will rise significantly over the years. This is already noticeable in projects currently being presented to the Board.

18. Turning now to the regional distribution of the future lending for agriculture and rural development projects, table 3 illustrates that the regional distribution of rural development projects in the 5-Year Operations Lending Program does not conform to the regional distribution of the number of the rural poor.

Table 3: REGIONAL DISTRIBUTION OF LENDING FOR RURAL DEVELOPMENT, FY74-78 RELATIVE TO THE DISTRIBUTION OF THE RURAL POOR

| <u>Region</u> | <u>Rural Poor ^{a/}</u> | | <u>Lending to Rural Development</u> | | <u>Lending per Capita</u> <u>\$</u> |
|---------------------|-----------------------------------|-------------------|-------------------------------------|-------------------|--|
| | <u>Number</u> <u>(million)</u> | <u>Percentage</u> | <u>Amount</u> <u>(\$ mill.)</u> | <u>Percentage</u> | |
| Eastern Africa | 64 | 9.6 | 176 | 6.4 | 2.75 |
| Western Africa | 51 | 7.6 | 292 | 10.6 | 5.73 |
| East Asia & Pacific | 109 | 16.3 | 635 | 23.2 | 5.83 |
| South Asia | 389 | 58.2 | 644 | 23.5 | 1.66 |
| EMENA | 23 | 3.4 | 284 | 10.4 | 4.52 |
| LAC | 32 | 4.9 | 709 | 25.9 | 22.16 |
| Total | 668 | 100.0 | 2,740 | 100.0 | 4.10 |

a/ Defined here as those with per capita incomes below \$75.00.

19. Two figures stand out in Table 3: LAC with only about 5 percent of the world's rural poor is projected to receive a quarter of the Bank Group's total lending for rural development, while South Asia, with 58 percent of the rural poor is projected to receive only 23 percent of the Bank Group's lending. The contrast in the relative per capita lending figures is even starker. A similar picture is presented if all other agricultural projects are included. It has to be recognized, however, that the Bank Group has responsibilities to all its member countries and cannot distribute its Bank loans and IDA credits exactly in proportion to relative poverty as between countries or according to the exact distribution of the rural poor. Moreover, there are a number of other factors, such as differential capacities to plan and execute projects and the program lending to India which has by far the largest number of the rural poor. Nevertheless, the above analysis would in all fairness seem to warrant a reconsideration of the regional distribution of Bank Group lending to see whether it cannot be made to conform more to the regional distribution of the world's rural (and urban) poor.

(iv) The Project Development Cycle

(a) Research

20. In several parts of this paper, mention is made of data which is lacking or deficient. This has caused major difficulties in analysis and drafting. Some steps have already been taken by the Bank Group to fill in data gaps and to improve the reliability of statistics, and other international and national agencies are taking other steps. But the volume and quality of the research effort required is not commensurate with needs, and budgetary and other constraints limit the extent and speed with which further action can be taken.

21. What are the main areas where we need to know more about the parameters relevant to formulating realistic rural development strategies and tactics and relevant to the selection and design of socially profitable rural development projects?

22. General Characteristics of Target Income Groups. First and foremost, we need to know much more about the general characteristics of the target income groups. Thus, we require knowledge about how many rural poor/smallholders there are, where they are located, what their occupations are (if they have any), whether they own land, rent it or are landless, what incomes they earn from various activities and general socio-economic characteristics about themselves and the environment in which they and their families live and work. Some information is available from FAO's World Censuses of Agriculture in 1960 and 1970, and additional information can be obtained from sample agricultural and farm budget surveys in some countries or in some parts of the countries. But the gaps are large and need to be filled with regular sample surveys of

agricultural production and distribution, with crop cutting surveys, with farm budget, income/expenditure surveys and with rural household budget surveys in most developing countries.

22. To cover this aspect, the Agriculture and Rural Development Department of the Bank has commissioned FAO to speed up its work on analyzing the 1970 World Agricultural Census with respect to the small farm sector. In the first stage of the work, the general characteristics of small farms in 17 countries, for which reasonably adequate returns are available, is to be described and analyzed. In the second stage, an in-depth study of 3 countries will be undertaken.

23. In addition, the Development Research Center of the Bank, in cooperation with the Agriculture and Rural Development Department, the Institute of Development Studies, University of Sussex and FAO is about to embark upon a research project called "The Analytics of Change in Rural Communities", which has the following aims: "(a) designing and evaluating key features of integrated rural development projects; (b) analyzing the effects on rural communities of different development policy instruments; (c) helping to identify those features of successful projects which can be repeated in other rural areas; and more generally (d) provide an efficient feed-back system to enhance the value of project experience in updating our understanding". The study will make use of the Farm Budget, Income/Expenditure study carried out by the FAO/IBRD Cooperative Program in the Muda River Irrigation project area. Of particular interest are the inter-regional linkages about which the study provides some information.

24. National Resource Inventory and Evaluation. Second, we require much greater knowledge about the national resources available for exploitation by the rural poor and others. This entails resource inventory and evaluation

work, based on various kinds of field surveys; use of ERTS imagery and aerial photography; national income, production and employment statistics disaggregated to the regional and local levels; and sectoral and regional studies to discover and foster additional growth centers and rural/urban linkages.

25. Very few developing countries have embarked upon resource inventory and evaluation in any systematic way; similarly fewer countries still have attempted any regional planning studies as a basis for devising a rural development program. The Bank Group has been involved in a few river basin studies, such as the Indus Basin Study, but the operational projects departments are organized on a sectoral basis and the Bank's economic work has been basically macro-economic with some sectoral and sub-sectoral studies. A recent departure from this pattern has occurred in the case of Indonesia. Here, the Bank has sent its first Regional Planning Mission to assist the Government formulate a framework within which regional planning could be more effectively carried out;^{1/} and together with the Canadian International Development Agency, it is considering financing a "National Resource Inventory and Evaluation Project", which has a large base map and thematic map production element. Many other countries badly need such resource inventory and evaluation programs as an aid to project planning in general and to planning rural development programs in particular.

26. Improved Technologies. The Bank Group has recently played a leading role in helping to organize and finance international research to increase the quantity and improve the quality of food crops. These include rice, wheat,

^{1/} See "A Framework for Regional Planning In Indonesia", August 1974.

maize, potatoes, livestock, animal disease, tropical agriculture and semi-arid tropical crops. Thus a Consultative Group on International Agricultural Research was founded on the initiative of the World Bank in 1971, with 29 members, and with the Bank as Chairman and FAO and UNDP as co-sponsors. The Group appointed a Technical Advisory Committee (TAC) whose terms of reference are to:

- (i) advise the Consultative Group on the main gaps and priorities in agricultural research related to the problems of the developing countries, both in the technical and socio-economic fields, based on a continuing review of existing national, regional and international research activities;
- (ii) recommend to the Consultative Group feasibility studies designed to explore in depth how best to organize and conduct agricultural research on priority problems, particularly those calling for international or regional effort;
- (iii) examine the results of these or other feasibility studies and present its views and recommendations for action for the guidance of the Consultative Group;
- (iv) advise the Consultative Group on the effectiveness of specific existing international research programs; and
- (v) in other ways encourage the creation of an international network of research institutions and the effective interchange of information among them.

27. The members of the Consultative Group are presently supporting six existing international centers already in operation -- The International Maize and Wheat Improvement Center (Centro Internacional de Mejoramiento de Maiz y Trigo, or CIMMYT), based in Mexico; the International Rice Research Institute (IRRI),

based in the Philippines; the International Center for Tropical Agriculture (Centro Internacional de Agricultura Tropical, or CIAT), based in Colombia; The International Institute for Tropical Agriculture (IITA) based in Nigeria; the International Potato Center (Centro Internacional de Papa, or CIP), based in Peru, and the recently established International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), based in India. The Consultative Group, through its African Livestock Sub-Committee, also is proceeding with the establishment of an International Laboratory for Research on Animal Diseases (ILRAD), recently inaugurated in Kenya, and with a comprehensive research activity for animal production and health -- the International Livestock Center for Africa (ILCA) -- now being established in Ethiopia.

28. In 1972, its first full year of operation, the Consultative Group raised \$15 million and a further \$25 million in 1973. The estimates for 1974 and 1975 are about \$33 million and \$45 million respectively. Although some of the international research institutes need to improve their organization and procedures, there is little doubt that they could very usefully use more funds. Most of the research of the Institutes is relevant in helping to raise the productivity of small farmers and some of the research, such as IRRI's research into mechanization is directly aimed at the small farmer.

29. Thus, while much effort is being directed on the international research front to improving our knowledge about production possibilities through new high-yielding and disease resistant strains of food crops and livestock under varying agro-ecological conditions, the forecast grain shortage of 80-90 million ton by 1980 calls for greater efforts, more adaptation to local conditions, greater attention to the problems of small farms and improved methods of transferring known technologies. It is to the last mentioned

problem that we turn to now.

30. Transfer of Proven Technologies. To illustrate the point at issue, let us compare average yields of paddy under irrigation in Asia and the Far East.

| | 1971 Paddy Yields <u>M.Tons/hectare</u> |
|---------------------|---|
| <u>Group A</u> | |
| Japan | 5.25 |
| Taiwan | 4.31 |
| Korea | 3.33 |
| Indonesia | 2.88 |
| Average for Group A | <u>3.94</u> tons/ha. |
| <u>Group B</u> | |
| Thailand | 1.97 |
| Pakistan | 1.90 |
| Philippines | 1.72 |
| India | 1.71 |
| Bangladesh | 1.69 |
| Burma | 1.69 |
| Average for Group B | <u>1.78</u> tons/ha. |

31. The average yield in Group A is over twice as high as the average yield in Group B and the difference between the highest yield (Japan) and the lowest (Bangladesh, Burma) is 3.56 tons per hectare or over 300 percent. In general, the basic technology needed to raise average yields in Group B countries more towards average yields in Group A countries is known, but much more adaptive national research is required. There will always be agro-

ecological differences which will cause different yields,^{1/} and apart from the need for field experimentation to adapt HYV varieties to local conditions, determine optimum fertilizer applications, etc., there is need for research into the following types of factors which appear to be major constraints on the transfer of known technologies to Group B countries and Indonesia:

- (i) Socio-economic constraints in primitive societies; and
- (ii) Institutional, administrative and manpower constraints.

32. This is not the place to analyze these constraints in any detail, but they go to the heart of the development problem, particularly in rural areas. Under the category of socio-economic constraints, for example, the avoidance of risk appear to be an important and overriding consideration for those near the starvation level. What combination of economic and social assurances and stimulants need to be provided to overcome the very natural and understandable aversion to risk taking? Then, assuming that socio-economic research will provide answers tailored to differing economies and societies, how do we deliver the packages? What needs to be done to remove institutional, administrative and manpower bottlenecks? Since we probably know least about how to remove such constraints, clearly this is a high priority, inter-disciplinary research area.

^{1/} For example, pests are a much greater problem in Group B countries and Indonesia than in the more temperate climates of Korea and Japan.

(b) Pre-Investment Work

33. The paths along which and the processes by which Bank Group projects are identified, selected, prepared and appraised for eventual Board presentation are many and varied, and the importance of sound economic and pre-investment work as the basis for project planning cannot be stressed too strongly. This is of particular importance for rural development projects because of their complexity and inter-sectoral components and linkages.

34. There are some signs ^{1/} that the nature of Bank economic and sector work is changing to make it more operationally significant from the project point of view. On the economic side, there are important obligations to Consortia and Consultative Groups and CPP work, which have to be met, but greater priority needs to be given to country economic work which more directly supports project planning in all its phases. Specifically, more emphasis needs to be put on: regional planning and the spatial aspects of sectoral planning; upon deriving the national parameters for economic and social prices in project analysis; upon analyzing labor markets and problems of unemployment and under-employment; upon obtaining income distribution data; upon evaluating the effects of pricing policies which discriminate against the rural poor; and upon identifying the constraints, particularly the organizational, procedural and manpower ones, which make for poor project planning and implementation.

35. Guidelines have been issued recently to orientate agricultural and rural development sector work more towards the target income groups and the problems and policies involved, stimulating faster growth rates in the output of small farms. ^{2/} Similar guidelines have yet to be worked out for country economic reports.

^{1/} See in particular the Bangladesh Basic Economic Report: "Bangladesh -- Development in a Rural Economy", No. 455-BD.

^{2/} See "Guidelines for Agricultural Work by Economic and Sector Missions" dated March 22, 1974.

36. The Bank's 5-Year Operations Program has had to be revised recently in response to the energy crisis and inflation. The implications of this for the program of economic and sector work has yet to be worked out in detail, but, because the Bank itself is a victim of inflation, it appears likely that the proportion of sector work, not the least agricultural and rural development sector work, is unlikely to rise pari passu with the growing proportion of agricultural and rural development projects in the 5-Year Lending Program. In point of fact, it is not feasible to present a fully quantitative picture of sector work because some sector work is done on appraisal and supervision missions, particularly that which shades into project identification/preparation. It is difficult to find a common numeraire to measure the output of such work activities and that of sector and sub-sector surveys and regional development surveys. Nevertheless, it would appear that the quantum, quality and phasing of sector work may not be wholly consistent with the projected increase in project operations over the next five years.

37. During FY75 the following agricultural and rural development sector surveys are planned:

Table 1: FY75 Agriculture and Rural Development Sector Work ^{a/}

| <u>Region</u> | <u>Sector</u> | <u>Sub-Sector</u> | <u>Other</u> |
|---------------------------------|---------------|-------------------|--------------|
| East Asia and Pacific | <u>b/</u> | 1 <u>h/</u> | 1 <u>k/</u> |
| South Asia | 3 <u>c/</u> | - | - |
| Eastern Africa | 2 <u>d/</u> | - | - |
| Western Africa | 4 <u>e/</u> | 2 <u>i/</u> | 1 |
| Europe, Middle East & N. Africa | 1 <u>f/</u> | 2 <u>j/</u> | 4 <u>l/</u> |
| Latin America and Caribbean | 4 <u>g/</u> | - | - |

Footnotes

- a/ Does not include sector work undertaken in conjunction with appraisal and supervision missions. For this reason and because intensities vary the table has no totals.
- b/ Sector work on Indonesia, Malaysia and the Philippines will be carried out by staff attached to Economic Missions.
- c/ Nepal, Burma and possibly Pakistan.
- d/ Sudan and Zambia. Lesotho, Swaziland and Madagascar in FY76.
- e/ Dahomey, Ivory Coast, Cameroon and Senegal
- f/ Afghanistan
- g/ El Salvador, Guatemala, Nicaragua and Costa Rica -- all jointly with USAID and IDA.
- h/ Malaysia - Smallholder sector review.
- i/ Regional studies (mainly the Sahelian zone) of Forestry and Livestock. The Forestry study will include Ivory Coast, Ghana, Cameroon and the Democratic Republic of the Congo, and may also include Liberia, Niger Gabon and the Central African Republic.
- j/ Livestock and Fruits and vegetable sub-sector surveys in selected countries of the Middle East.
- h/ A Review of selected aspects of regional and rural development in the Philippines.
- l/ Special missions to Egypt and Romania; an economic-regional (Macedonia) development study in Yugoslavia; a rural and regional development study in Tunisia.

38. In addition to the Bank Group programs, FAO plans to have "Country Perspective Studies" in Malaysia, Burma, the Sahelian countries in West Africa, two or three countries (yet to be identified) in Africa and possibly Syria. Work is just ending on Iraq, Iran, Pakistan and Bangladesh. The Bank and FAO are now actively coordinating their sector work so as to avoid duplications.

39. Hopefully, the budgetary constraint will ease and the sector work can be stepped up in FY76 and thereafter to make it consistent with the project lending program for agriculture and rural development.

C. Guidelines for the Identification and Preparation of Rural
Development Projects

40. Rural development, as we have defined it above, is a radically new multi-sectoral development approach at the project level. Implementation of such projects is complex because high degrees of coordination and integration are required both between the components of a project and between the project as a whole and the national economy. This integration frequently cuts across previously narrow sectoral development activities and usually involves the development of new political and administrative institutions over significant periods.

41. Therefore, whilst not a pre-requisite, the long term political commitment of the government is vitally important to the success of rural development efforts. This commitment can be manifested in terms of legislation enacted, development priorities assigned and resources committed in favour of the rural poor. Generally however, having made the necessary political commitment, the government itself requires help in the formulation of a long term rural development programme. Such formulation is important both because the government can more fully understand integrated rural development and make a commitment to it, and because an ordered search for high priority rural development projects can then be undertaken.

42. Ideally the national rural development programme should be broken down into regional and local programmes - thus ensuring integration of the development programme in all respects - with inter-regional priorities stipulated. The Bank can aid in the preparation of such long term national rural development programmes in the following ways:

- sector and sub-sector surveys. These are part of the Bank's routine work and steps have been taken to include a farm class approach in the agricultural work of Economic and Sector Missions.
- Collaboration with other multi-lateral and bilateral agencies

e.g. the C.P. including joint missions.

- special missions by Bank staff.

43. Given the political commitment and within the framework of a national programme it will then be possible to identify specific project possibilities. As these possibilities become clear it may be necessary to undertake more direct socioeconomic surveys of the target population to identify their particular development needs, constraints and potential; and to undertake sub-sectoral surveys in order to develop priorities for the individual components of the programme. Naturally the closer the final fit between the project and the criteria and objectives of the 'ideal' rural development project the better - in terms of targeting towards the lower income groups, raising the standards of living of the target population, raising small farmers' productivity and involving large numbers of beneficiaries.

44. Nevertheless, given the inherent complexities of rural development situations, it is unlikely that the data base received or analysis made will ever be perfectly complete. It is therefore important to spell out as early as possible the basic project rationale together with a broad project profile, for example: number of farmers, their income groups, projected impact on productivity, cost of the project and its replicability, breakdown into directly productive and non-productive investment. This would help to focus the project preparation process in the face of early problems such as:

- institutional constraints: lack of an appropriate institution at the national level with broad enough authority to take responsibility for integrated rural development programmes.
- project definition: defining the scope of rural development projects and establishing appropriate component cut off points can severely

stall the preparation process. Standard approaches to this problem are phasing of the programme in modules for subsequent staged expansion and/or restriction of the initial programme to a test area. In both cases low investment cost per unit and ease of replicability become especially important criteria for the success of the long term programme as a whole. In some cases the degree of multisectoral involvement can be restricted if the organizational and institutional participation problems are too severe. For example the health and education components can be limited. However, this tends to undermine the strength of the integrated approach, which includes the provision of social services, to break the circles of absolute poverty and raise the standards of living of the target population. Therefore if social services are limited initially, provision should nevertheless be made to include such components in the long term.

45. The importance of the political decisions to be made at this stage, the need to generate government understanding, awareness and support for integrated rural development, and the need to build appropriate institutions for the subsequent implementation of rural development programmes make it imperative that primary responsibility for project preparation rest with the government concerned. The government must begin to organise its rural development activities on a multisectoral area as opposed to sectoral basis and to identify the types of institutions best suited to its unique rural development context. Development choices between regions are also highly political decisions. The potential of an area to sustain rapid development is often used as a priority ranking criterion; but this should not obscure the fact that sometimes the areas in most critical need of an integrated rural development programme are those areas with apparently

low or slow long term development potential.

46. In short the effective involvement of the government in the preparation process is not only important for the project preparation stage itself but, in general, will have a direct bearing on the future implementation and implementability of the project as it is in the preparation stage that some of the key institutions and people will become committed to the rural development programme. In this context it is generally not worthwhile to speed up the project preparation process if it means using outside consultants.

47. It is also important that the Bank and other concerned multilateral and bilateral agencies collaborate closely at the design stage of the project because the complexity of the multisectoral approach and component integration will, by its very nature, subject the project to almost continuous modification at the village level. Therefore the earlier the involvement of concerned agencies the better will be their understanding of the project itself. This is especially important because completion of standard feasibility studies for each project component at the same time and at the level of detail normally required for Bank projects is generally impracticable. Marketing and engineering estimates in particular are difficult to quantify exactly. The approach of concerned development institutions will therefore have to be flexible and innovative if integrated rural development projects are to receive the support they need. Specific 'flexibility issues' are:

- Scope of the project (relatively open ended at the village level, redirection of implementation funds possibly needed)
- unidentified contingencies (need for a special contingency fund)
- local cost financing
- small farmer credit risks (could be guaranteed by the Central Bank)

- nature of financial intermediaries (need for global loans, open ended lines of credit)
- disbursement procedures
- bidding procedures
- financing of recurrent costs and subsidies
- quantification of social benefits
- project and programme revisions after Board approval.

In most of these issues the Bank will have to rely less on formal procedures and more on local institutions' effectiveness, commitment and leadership to achieve project objectives.

48. However in many cases development of appropriate institutions is the key project implementation task:

- at the national level there are frequently no institutions with unique and broad authority for integrated rural development aimed at lower income groups. Instead the component activities needed for integrated rural development are usually the responsibility of several different ministries each with a narrow sectoral focus. In general it is not advisable to form a new institution at the national level unless this is unavoidable. If one is formed it would normally be at cabinet level reporting directly to the president.

49. One approach is to concentrate on building awareness and commitment on the part of several involved institutions during the project preparation process in the hope that a natural leader will emerge at the appraisal stage. The preparation stage would then concentrate on what had to be done without necessarily defining who would do it. However this risks non-confrontation of what could be the key project implementation issue until it is too late.

or strengthening of local institutions are central to the objectives of any rural development project: namely, to raise the standards of living of the rural poor.

- at the regional level a link must also be formed between the integrated activities at village and national levels. Normally the institution concerned would have some responsibility for local administration and government. It would ensure the integration of the project with the national and regional development efforts.

50. Right from the project identification stage the burdens placed on an effective project monitoring and evaluation system are significant because the critical processes to be measured are such as organizational and institutional effectiveness and degrees of community mobilization and commitment to a project. These sorts of measures are central to a determination of project 'feasibility'.

51. Characteristically it will be necessary to field more frequent missions in both the project identification (reconnaissance), preparation and implementation phases than usual, probably every two to three months. Commitment of this manpower cannot be avoided. Efforts will also be made to maintain project team continuity through project preparation and implementation phases, partly because of the sheer complexity of the programmes and partly because the particular involvement and commitment of the country government and its people in institution building require a minimum continuity of personal contacts and relationships. Attempts will also be made to encourage local institutions such as universities to be involved in project monitoring and evaluation.

52. Just as more can be learnt about the rural development process by undertaking new projects it is also important to learn from the experience of others in the field. This includes the regional departments within

In some cases it may be more effective to enlist the support of a powerful proponent of the project who could work for the understanding and cooperation of involved institutions, given the de facto long term political commitment of the government to integrated rural development aimed at lower income groups. Another aspect of the institutional problem at the national level is the need for new legislation or structural reform such as in the area of land tenure. Here again it is to be hoped that the government would already have taken steps in the needed directions. Generally speaking the more the project can meet its objectives by building on a framework of existing institutions and laws the more natural and evolutionary the project preparation and subsequent implementation processes will be.

- at the village level choice and development of the appropriate organizational unit to integrate project components is critical. Here again the ideal solution would build on existing organizations and/or socio-cultural traditions. This is especially important if the local project beneficiaries are to participate and to perceive that they are participating in the planning, decision making and implementation processes. It is also important that they be given visible real social and economic incentives to cooperate in the form of village council, committee or cooperative and to participate at the appropriate level in the integrated agricultural system. A strong political organization can be very effective here but in general the more massive the socio-economic restructuring undertaken at the village level the more massive the social and economic incentives to participate will have to be - including possibly direct subsidies. Nevertheless development of local leadership, decentralization of project management and building

the Bank and agencies outside the Bank. Steps have therefore been taken to encourage rural development seminars and develop cooperative programmes.

(d) Guidelines for Appraising Rural Development Projects

53. The Bank is nearing the end of a process of reviewing and revising its traditional cost-benefit methodology, and is now moving to the next stages: experimentation and implementation, when a proposed new social cost-benefit methodology^{1/} will be applied to a number of projects in a number of countries. It is a major objective of the new methodology that it will be used to influence the selection and design of projects at the earliest possible moment in the project planning cycle. Indeed, unless the methodology were used in this way, it would tend to degenerate into mere cosmetics.

54. The proposed new methodology is very similar to that contained in the revised Little-Mirrlees work^{2/}, and it also draws on a similar UNIDO work.^{3/} The interesting features of all three works, and, therefore the relevance to the evaluation of rural development projects are (a) the theoretically similar systems of determining shadow pricing, and (b) the fact that they all have systems for weighting income distribution benefits.

55. What is so special about Rural Development Projects that special "Guidelines" might be thought necessary? Is a special methodology really

1/ See "Economic Analysis of Projects" (PRC/S/M/74-7), June 4, 1974 and a Supplement dated June 12, 1974, which applies the methodology to the Ivory Coast.

2/ "Project Appraisal and Planning for Developing Countries" by I.M.D. Little and J.A. Mirrlees, Heinemann, London, 1974. This is a complete revision of the OECD "Manual of Industrial Project Analysis in Developing Countries" - Volume II "Social Cost Benefit Analysis", Paris 1969.

3/ "Guidelines for Project Evaluation" by Partha Dasgupta, Amartya Sen and Stephen Marglin, United Nations, New York, 1972.

needed? Almost by definition rural development projects are complicated ones, which have cross-sectoral components larger than typical agricultural projects or projects in other sectors, but this in itself is not necessarily a reason for having a different or unique way for assessing its economic/social justification in terms of objective functions. It would be if non-rural development projects were evaluated in terms of objective functions which did not include such things as reducing under-employment and unemployment and improving the distribution of income and wealth. The rate of return calculations currently employed in the Bank do, it is true, implicitly assume that a peso in the hands of a rich man has the same utility as a peso in the hands of a poor man (the elasticity of marginal utility with respect to income = 0). This ought to be changed because few people believe it, and it will be changed if the proposed new Bank methodology is approved, but increasingly employment and income distribution criteria are being used to influence the selection, the design and the evaluation of projects. In other words, the Bank Group is moving towards a methodology of social cost-benefit analysis which enables efficiency and distributional criteria to be weighted according to the objective functions of its member governments or, where these are not acceptable, of the Bank itself.

56. Rural development projects typically have more multi-sectoral components than do other projects, for which the benefits are not easily quantified in money terms. They are also projects which probably have more indirect benefits which are difficult to measure. Are these then reasons for having a different methodology? If not, how does one handle those elements for which benefits are not easily measured or quantifiable in money terms? While it is no doubt true that rural development projects are more difficult to appraise because of their cross-sectoral features and because more of their benefits may be indirect rather than direct and therefore more difficult to trace and

require the separate evaluation of component elements. Third, where services are charged for, that the rate of return calculations are used to measure whether prices cover the marginal social costs. If not that, fourth, complete or partial subsidization--the provision of services at less than the marginal social cost of producing them--is justified in terms of the government's objective functions and fiscal policies.

57. Just as it is often difficult to measure in money terms the benefits of some parts of rural development projects, so it is difficult to estimate the number of beneficiaries. Indeed, considerable care should be exercised, both in the estimation of the numbers of beneficiaries and in the way in which the claims are put. The additional net incomes of the beneficiaries and the additional employment created by projects are properly reflected in the rate of return or net present value^{1/} estimates; these form part of the total project benefits and could not, therefore, be claimed as additional benefits from projects.

58. There are two basic problems with comparing number of project beneficiaries. First, it is difficult to know where to draw the line. All projects have Keynesian multiplier effects to a greater or lesser extent, and it is not usually possible to measure the differential effects in a dynamic way. Some indirect effects are more easily identified and measured than others, and because the indirect effect of one project cannot be identified and measured, it does not follow that in some sense it is a worse project than one where the indirect effects can be measured. Second, in comparing the number of beneficiaries, one is not always comparing like with like. Thus the number of beneficiaries from a seed certification and multiplication project may be quite a different category from the number of beneficiaries from

^{1/} Net present value is probably a better single measure of overall net benefits or social profits, but a percentage rate of return figure is more familiar and more easily comprehended. Nevertheless, a project with a high rate of return is not necessarily a better project than one with a lower rate. It

measure, it does not follow that one needs different methodologies for rural development and other projects. Indeed, the new social cost-benefit analysis now being tried out covers rural development projects. However, where project benefits cannot be quantified or where the quantification would take so much time and cost so much that it would not be justified by any improvement in the results, then clearly full cost-benefit analysis cannot be employed, and cost-effectiveness has to be used instead. Consider a project which has a major agricultural component, but also has significant elements of farm-to-market roads, rural health clinics, farmers' education and training and rural electrification. Assume that the direct and indirect benefits from the agriculture and farm-to-market roads can be quantified, as can the rural electrification element because the electricity is largely required for tubewell pumping. In such a case, a rate of return calculation would be made for the project excluding the rural health clinics and the farmers' education and training elements. In addition, qualitative arguments would be given to (a) justify the level of social services being provided and to infer that the discounted benefits at least equalled the discounted costs; and (b) that the discounted cost is the minimum among possible alternative ways of providing the services. But this is standard Bank practice already in public utility and other projects where the benefits cannot be quantified. Nevertheless, it is necessary to emphasize four points. First, that the process of selecting the least-cost alternative is made explicit so that the analyst can see that real and not shadow alternatives have been considered. Second, that care is exercised to ensure that the non-social profitability of one component of a project is not hidden or covered under the high social profitability of another. This may

a village development project; similarly, there are qualitative differences between rural education, rural electrification and irrigation projects. In short, the number of beneficiaries is not necessarily a good numeraire for comparing project benefits.

59. Where the number of indirect beneficiaries--i.e. those not benefitting directly and obviously--can be identified, this should be done and qualitative differences noted, but such estimates should be kept separate from the estimate of direct project beneficiaries.

(e) Improved Organisation and Procedures

60. What needs to be done to ensure that the way in which the Bank Group projects is conducive to meeting the targets and implementing the policies outlined in the Nairobi speech? Before attempting to answer this question it is necessary first to review what the existing position is.

61. During the past few years substantial changes in organisation and procedures have been effected, designed to improve efficiency in a rapidly growing organisation, and the Bank now has an extensive system for monitoring the progress of economic, sector and project work along the pipeline. Thus there are monthly reporting systems for economic and sector work and for projects, and each week the Regional Offices prepare "slippage reports" on projects for regional management review. In addition, there is a six-monthly review by top management of "problem projects", which are those projects which have run into severe implementation problems. These projects are selected on the basis of the reports of Supervision Missions which periodically go into the field to review the program being made with implementing the projects.

62. Finally, a control/monitoring system for rural development projects was recently introduced on a trial basis. The objectives are (a) to help influence the selection and design of projects at the earliest stages so as to increase the impact on the productivity and quality of life of the rural poor; and (b) to follow the projects through the pipeline with special reference to the target income groups they are intended to help.

63. With respect to (a), "Project Information Briefs" (PIBs) are now prepared for all agricultural projects and all rural development projects

having a substantial agricultural element in the first three years of the Bank's 5-Year Operations Lending Program. After experience is gained, it is hoped to extend the system to other kinds of rural development projects which have predominantly education, health, public utility, public works and training elements, and to extend the system to the projects in the remaining two years of the 5-Year Lending Program. The PIB gives essential information about each project and is designed to ensure consideration of what is called the "target income group", which for this purpose was defined as the lowest 40% of each country's income distribution. This definition may be changed to accord with the definition given in this paper which takes some account of the fact that the bulk of the world's rural poor are concentrated in four Asian countries: Pakistan, India, Bangladesh and Indonesia.

64. In regard to (b), the PIBs are attached to the Bank's "Project Timetables" which are prepared or revised monthly for all projects on which some preparation or appraisal work is in progress. At the beginning of each financial year, timetables are prepared for all projects in the first two years of the Bank's 5-Year Operations Lending Program; by the end of the current fiscal year this drops to one year, and jumps up to two years again at the opening of the next fiscal year. The monthly timetable system was designed as a recording and monitoring device for all projects. In the new system, the old one is being used as a vehicle to carry some additional monitoring of rural development ones.

65. Thus, even on a narrow view, monitoring of this type should provide a useful series of reference points for reviewing the program in meeting the goals of the Nairobi speech. But, for the system to provide a more positive stimulus in obtaining these goals, other action is required. First, as described in section (b) above, an intensive back-up effort is required at the country economic and sector work level so as to provide guidance and support

for project planning strategies and tactics and to facilitate a more systematic consideration of rural development criteria in the Country Program Papers (CPP) preparation process.^{1/}

66. Second, a larger proportion of the Bank's resources should be brought to bear at the identification/preparation stage and rather less at the appraisal and report writing stages. An investigation is currently under way to integrate the documentation for Board presentation and to streamline the report writing procedures. Hopefully, a means will be found for significantly reducing the average elapsed time between the return of appraisal missions and Board presentations.

67. But much of the work which is done following the return of appraisal missions is not simply report drafting and editing of the drafts through a number of stages, but often involves considerable project reformulation. And this occurs partially because insufficient guidance has been provided for and insufficient thought and work have been carried out during the process of preparing projects. Better project preparation should reduce the elapsed time between the return of appraisal missions and Board presentations and the increased productivity at the later stages would, if necessary, release resources to improve project preparation. But in all probability also, and this applies particularly to rural development projects, the lead time for project identification and preparation will have to be extended over a longer period.

68. Third, much more attention needs to be paid to public sector organisation, procedures and personnel management and to how project organisations should be fitted into improved public sector systems. There has been an

^{1/} The CPP is the main vehicle by which the development strategies and tactics and the operational lending programs for each country are developed and approved by the Management of the Bank.

understandable tendency on the part of the Bank Group and other donors to establish project entities outside of the undeniably inefficient civil service structures in many developing countries. In this way highly privileged enclaves have been created to the detriment of the longer run improvement in public sector efficiency. Multi-sectoral rural development projects in particular depend critically on inter-agency cooperation and coordination and hence those responsible for preparing such projects must identify the real public sector institutional constraints and seek practical solutions. Institutional constraints may be so persuasive, however, that general reforms may be required before particular projects could be implemented.

69. Fourth, and equally important, are the training aspects of all projects, not the least rural development ones. Some technical assistance experts are better than others in training counterparts, but in general it is something of a myth in many developing countries that technical assistance experts actually train local people to take over when they leave. There are many reasons for this, including a shortage of adequate counterparts and the fact that the experts are often fully engaged in executive functions. Consequently, it is important--at least in the larger projects--to make provisions for proper training courses. Increasingly Bank projects are doing this and it is a trend to be strongly supported. The reduction in the demand for replacement technical assistance would make more available for new projects.

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

WHAT CHANGING TECHNOLOGY IMPLIES FOR AGRAIAN REFORM
A BACKGROUND STUDY TO THE IBRD POLICY PAPER
ON LAND REFORM

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WHAT CHANGING TECHNOLOGY IMPLIES FOR AGRARIAN REFORM

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All former drafts of this manuscript--
ones with white cover pages--should be
discarded.

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WHAT CHANGING TECHNOLOGY IMPLIES FOR AGRARIAN REFORM

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Agriculture is of central concern for development policy makers because in most less developed countries (LDCs) it tends to be the largest sector of the economy in terms of percent of the work force employed and often even in the share of GNP it generates.¹ One challenge that agricultural sectors in most LDCs face today is that they must produce ever-increasing amounts of food and fibre because population is growing so rapidly.

Role of the Agricultural Sector in LDCs

Need for Increased Agricultural Output

The need to produce more is painfully obvious when one contem-

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¹In this paper economic growth is defined as an increase in GNP per capita, while development is considered to be a more inclusive term encompassing economic growth along with "expanded opportunities and the human capacities needed to exploit them, [and] a general reduction of mass poverty, unemployment, and inequality." See Peter Dorner, "Needed Redirections in Economic Analysis for Agricultural Development Policy," American Journal of Agricultural Economics 53, no. 1 (February 1971), pp. 8-16. "Enhanced security" should probably be added to Dorner's definition.

plates recent and widely publicized demographic data. While the population of North America is 228 million and it is rising at a rate of only 1.3 percent a year, Latin America's total population is 283 million and is growing at well over double the U.S. rate, at 2.9 percent per annum. Similarly, Africa has a population of 344 million and is increasing at 2.5 percent per year, while Asia contains 2,056 million and this number is rising by 2.3 percent annually.²

If the population of, say, Latin America continues to grow at its present rate, there will be more than twice as many people in the region by the year 2000. While there are great differences between countries, this means that Latin America's total agricultural production will have to at least double during that time--just to keep everyone where he is today. The U.S. could take more than twice as long to accomplish this awesome task.

How Can Agriculture Adjust?

There are four ways in which agriculture might gear up to meet demands for more food, discounting the alternative of sustained importation of large amounts of farm products for most countries because of its costliness (and perhaps short-term unavailability); in practice, a country uses them in various combinations:

1. An effort may be made to press forested land or natural pasture in already settled areas into cropping.
2. Land that is under the plow may be more intensively cultivated using traditional inputs, e.g., more

²United Nations, Statistical Yearbook, 1971, E/F 72.xvii.1 (New York, 1972).

laborers might be put to work on each cultivated acre.

3. An attempt may be made to develop the know how that will make it possible to farm frontier lands.
4. There may be an all-out effort to utilize new technology to produce more from every acre now being worked.

Alternative (1), even if combined in some way with (2) or (4), could have very undesirable consequences. But if the other alternatives are closed, hilly woodlands will be deforested, humid jungles will be denuded, and prairies will be plowed. Hence gullies will be cut, soils will be leached, and dust bowls will be formed. In the longer run, the hydrologic cycle will likely be seriously interrupted and soils now usable for range and forest will be left in ruin.

Since strategy (2) has an obvious upper limit most eloquently spelled out by Schultz³, policy makers are usually left with some combination of (3) and (4). In countries where a frontier remains to be settled it is often looked to as a sort of panacea which is potentially capable of making up the food deficit, accommodating overpopulation, and maybe even earning foreign exchange with its hidden wealth. So Indonesians foster transmigration from Java, Brazilians cut a road through the untracked Amazon, Ecuadorians speak of the El Dorado they hope to find on their Andean slopes, and Nigerians believe in the potential of their "Middle Belt."

³Theodore Schultz, Transforming Traditional Agriculture, (Yale University Press, New Haven, Connecticut, 1964).

However, a frontier strategy, while politically relatively easy, is likely to be very costly for most countries in the foreseeable future because agronomic data is scarce, infrastructure is expensive, and the intensive use of this usually unproven soil may have the same consequences as those outlined for strategy (1). Therefore at the same time that research on how to use land which is too wet, too dry, too steep, too leachable, too disease prone, and/or too remote continues, most countries will have to rely on alternative (4): new technology will have to be applied to a more or less fixed land base to produce more food.⁴

One recent author is especially clear about the formidable effort this implies for LDCs:

Scientific agriculture ... must produce the greatest technical achievements of twentieth century man. The economic and social advances made possible by agricultural technology in the United States, Western Europe, and Japan during the first half of the century must be surpassed in the less developed countries. Their agriculture must outrun unprecedented population growth...⁵

But the very technology that makes it possible to alleviate hunger may have unforeseen and unfortunate secondary effects on society.

⁴Colonization in frontier areas is not always successful. See Peter M. Gladhart, Capital Formation on the Ecuadorian Frontier: A Study of Human Investment and Modernization in the Riobambenos Cooperative, A. E. Res. 72-5, Department of Agricultural Economics, Cornell University (Ithaca, April 1972).

⁵Rutherford M. Poats, Technology for Developing Nations (The Brookings Institution, Washington, D. C., 1972), p. 16.

This paper focuses on the following questions:

1. What are the actual and/or probable impacts on various groups in society that new technology may have upon its introduction into traditional agriculture?
2. How may some of the adverse effects be alleviated?

In this paper, I do not propose to delineate precisely who wins and who loses because of the adoption of technology in agriculture. The more studies are completed the more it becomes clear that there are few generalizations that can yet be drawn to cover every country situation.

But most technological change tends to have deleterious effects on some groups within society. This is not to deny that technological change is the sine qua non of development or that in the interest of some societal goal of egalitarianism its positive benefits should be foregone by everyone. But international lending agencies and national governments must attempt to develop some prescience about both intended and unintended effects before throwing their wholehearted support behind one investment project or another.

Last year, President Robert S. McNamara put the World Bank Group on record when he set forth his suggested goals for the international development community:

The first step should be to establish specific targets, within the development plans of individual countries, for income growth among the poorest 40% of the population. I suggest that our goal should be to increase the income of the poorest sections of society in the short run--in five years--at least as fast as the national average.⁶

⁶Robert S. McNamara, "Address to the Board of Governors," Washington, D. C., September 25, 1972.

If benefitting those who have so long been denied the benefits of economic growth is an explicit goal of, say, a capital loan, either (1) the technology embedded in the capital may need to undergo some modification in order to be optimally useful, or (2) the institutions through which it must filter or be delivered may need to be fundamentally changed.

Conventional economic wisdom tells us in general terms which groups are likely to be beneficiaries of new technology and de Janvry has nicely summed up the case:

Major gains from technological advance in agriculture can accrue to a number of social groups under a variety of forms: to consumers in the form of lower food prices; to early farm innovators in the form of Schumpeterian profits; to agri-business entrepreneurs when monopolistic or monopsonistic structures prevail in their markets; to subsistence farmers in the form of improved consumption levels; and, in a 'classical-Marxian' framework, to employers through lower wage goals and higher surplus values.⁷

What we don't know is who benefits and who loses in specific cases. For this reason I can only make a plea for farsighted analyses and good research on the part of aid donors before a grant or a loan is made.

What Kind of Technology?

This discussion will focus on the technological change in less developed countries that has dominated discussions in the past six or

⁷Alain de Janvry, "Welfare Implications of Alternative Technological Paths in Agriculture," Paper presented at the Ford Foundation OLAC Seminar in Agriculture, Mexico City, November 1972.

seven years: the so-called green revolution technology, the "miracle" seeds which, when used with designated amounts of fertilizer, ample water, and proper husbandry, give sudden and dramatic increases in yield. This seed-fertilizer revolution has occurred most markedly in two subsistence crops, wheat and rice.

The wheats are short-stemmed, relatively day-length insensitive, and highly responsive to inputs. Total semi-dwarf wheat acreage in India, Pakistan, Mexico, Turkey, Afghanistan, Tunisia, Iran, and Morocco expanded rapidly from 0.6 million hectares in 1966 to 10.6 million hectares in 1970. Production from these improved varieties during the same period increased from 1.6 million tons to 22.7 million tons.⁸

Area devoted to high yielding rice in South and East Asia rose from 17,700 acres in 1965/66 to 25,293,500 acres in 1970/71.⁹ Sri Lanka's rice crop increased 34 percent in two years. The Philippines had four consecutive record rice harvest.¹⁰ Table I offers some tentative income figures presented by Lester Brown.

⁸Sheldon K. Tsu, High-Yielding Varieties of Wheat in Developing Countries, ERS-Foreign 322 (USDA, Washington, D. C., September 1971).

⁹AID, "Green Revolution Grows Greener," War On Hunger 6, no. 5 (May 1972), pp. 10-11.

¹⁰Lester R. Brown, World Without Borders (Random House, New York, 1972), p. 21.

Table 1

Income from Traditional
and High-Yielding Varieties
(net income per acre)

| | Traditional Varieties | High-Yielding Varieties |
|---------------|--------------------------|----------------------------|
| Wheat: | | |
| Turkey | \$32 | \$ 80 |
| Pakistan | \$13 | \$ 54 |
| India | \$17 | \$ 76 |
| Rice: | | |
| West Pakistan | \$25 | \$ 45 |
| East Pakistan | \$30 | \$119 |
| Philippines | \$81 | \$140 |

Mostly 1968 data. From Lester R. Brown, "The Social Impact of the Green Revolution," International Conciliation, no. 581 (January 1971), p. 15.

Even so, it is not correct to imply that the current green revolution represents the only page in history where a quantum jump has been made by applying technology to agriculture. Hybrid corn produced a similar phenomenon in the U.S. In LDCs, productivity of some export crops has increased markedly over several decades.¹¹ Also, the spread of rice culture from Japan first to Taiwan and later to Korea was a variant on the same theme.¹² Reaching back further in time, a Sung emperor of 11th-century China is said to have introduced a rapid-maturing rice from Indochina which could be harvested 100 rather than 170 days after sowing.¹³ The unique feature of the contemporary green revolution is probably the short time in which it caught hold.

And yet one should not exaggerate the effects the contemporary green revolution has had. Even in the Asian "green revolution countries" the macro-agricultural data changed little in the 1960s because of rapid population growth. In India and the Philippines, agricultural production per head was roughly the same in 1970 as it was in 1960. In Indonesia it was noticeably lower. In Pakistan it was 14 percent higher but at that time figures included Bangladesh, where agricultural output per head did not rise (Table II).¹⁴

¹¹Rodolfo Quiros, "Agricultural Development and Economic Integration in Central America" (Ph.D. Diss., University of Wisconsin, 1971).

¹²Yujiro Hayami, "Elements of Induced Innovation: A Historical Perspective for the Green Revolution," Explorations in Economic History 8, no. 4 (Summer 1971).

¹³Michael Perelman, "Second Thoughts on the Green Revolution," The Nation (July 17, 1971), p. 21.

¹⁴Keith Griffin, The Green Revolution: An Economic Analysis, Report No. 72-6 (United Nations Research Institute for Social Development, 1972), p. 57.

Table II

Per Capita Agricultural Production
in Six Asian Nations: Percentage
change 1960-1970

| | |
|-------------|-----|
| Sri Lanka | +10 |
| India | 0 |
| Indonesia | - 4 |
| Pakistan | +14 |
| Philippines | 0 |
| Taiwan | +15 |

From Griffin, The Green Revolution, p. 57.

It is not without risk that some scientists have projected a fairly steady and smooth upward climb out of the fear of famine for the LDCs. Since water control has been essential to green revolution varieties, only amply rainfed or irrigated lands have been incorporated and these are limited in supply and very expensive to create.¹⁵ Furthermore, many countries in which the green revolution has taken place are subject to natural disasters or exigencies of weather which can play havoc with any advances. In 1972 drought hit from Kabul to Peking; the Philippines had flooding in Luzon, droughts in the south. And, in five crucial Philippine provinces a disease known as Tungro appeared.¹⁶ Parts of India had a good year, but Bengal and Bihar did not. Of Pakistan, a Ford Foundation agricultural officer says, "West Pakistan

¹⁵Scientists are working on high yielding rainfed wheats and barley for low rainfall areas, however.

¹⁶Marcus F. Franda, "Policy Responses to India's Green Revolution," American Universities Field Staff Reports 16, no. 9, (July 1972) and "Asia: Wilted Revolution," Newsweek (December 25, 1972), p. 37.

appears to have reached a production-plateau with wheat production from the four provinces totaling between 6.3 and 6.5 million tons for the last three out of four years.¹⁷

How the Green Revolution Might Effect Social Problems

Even given the best of production success however, the green revolution is likely to exacerbate existing social problems; indeed, the better the production the worse the strain on the social fabric will probably become. There are two major ways in which green revolution technology might strain the rural institutional pattern in LDCs:

1. The green revolution technology might cause some agricultural workers to be unemployed or more underemployed than formerly.
2. Some farmers might completely or partially be denied access to the new technology, thus increasing the income gap between the rich and the poor.

The Employment Problem

One of the most acute social problems in contemporary LDCs is lack of employment opportunities. In India, unemployment is estimated to have increased from 11 percent of the labor force in 1951 to 15 percent in 1961, a level maintained throughout the decade. There are 100,000 who enter the labor force each week in India. Study after study shows us that in country after country real unemployment data

¹⁷Gordon W. Mclean, "Wheat Production in West Pakistan," Mimeo., Islamabad, March 10, 1972. Bernard D. Nossiter, "The Death of Slogans," The Washington Post, April 18, 1973.

indicate a higher percentage of jobless now than in the early 1960s. It has been estimated that 75 million people in LDCs are currently unemployed and in the next decade 225 million additional workers will need work. That is nearly three times the total labor force in the U.S.¹⁸ Slowing the population growth, while essential, won't help this problem in the short term. New entrants to the labor force over the next 15 or 20 years--those who will also bear a new generation of workers--have already been born.

While good data on the extent of the employment problem in rural areas do not exist, one might imagine that it is as serious there--or more so--than in towns. Indeed, a structure of agriculture which doesn't permit enough employment and hastens farm-to-city migration is an important cause of the urban problem.¹⁹ Some feel that the green revolution technology may be exacerbating what is already a bad situation.

The most direct way that income distribution can be affected by the green revolution is if rural workers--who already crowd the low end of the spectrum of income receivers in most LDCs--lose their jobs or become more underemployed than presently because of it.

In summarizing one seminar on the green revolution in New Delhi, Das indicates that determining the income impacts of technology on

¹⁸Robert d'A. Shaw and Paul A. Laudicina, "Jobs: A Growing Global Crisis," Communique No. 7 (Overseas Development Council, Washington, D. C., March 1971).

¹⁹William C. Thiesenhusen, "Latin America's Employment Problem," Science 171 (March 5, 1971): 868-74.

various tenure groups is not an easy task:

While in UP, the neglected group may be the share-croppers on large estates, in Maharashtra it may be the marginal farmers on hill-side slopes. Landless labour might have gained in Punjab, whereas share-cropper dispossession in Tamil Nadu may have worsened the position of agricultural labourers there.²⁰

Whether the green revolution displaces workers seems to depend somewhat on which constellation of the following (non-exhaustive and interrelated) list of factors are found and how they are changing over time: 1) which green revolution crop is grown, 2) diversity of farming program followed, 3) amount of machinery and in which practices it is used or comes to be used, 4) whether or not double cropping is practiced, 5) size of farm, and 6) pattern of land tenure and presence of tenants, occasional labor, resident farm labor, etc.

When the green revolution is accompanied by the importation of labor-saving implements it often means a loss of jobs. But it does not necessarily mean increased joblessness if the speed with which one crop is harvested and another is planted decides whether a farmer is able to double crop or not. Likewise, if heavy equipment is needed to reclaim land before it can support farming, more jobs may result.

Nonetheless when one operation, say seeding, is mechanized for the above reasons and the power source becomes available at the farm in the form of a tractor, it will be easier to mechanize other farm operations. The cost of adding implements is probably marginal when

²⁰Amritananda Das, "Understanding the Green Revolution," Economic and Political Weekly (November 18, 1972), pp. 2266-67.

the investment in a tractor has already been made. Even if the first round produces increased labor use, second-round effects may be adverse.

Again, the fertilizer used with wheat and rice not only stimulates cereal growth, but growth of weeds as well. At weeding time, therefore, either family labor is employed more fully, additional labor is hired for the job, or mechanical and chemical techniques may be adopted replacing the labor completely.

The reason that mechanization seems to accompany the use of green revolution inputs is that government policy or even that of loaning or granting agencies may, for one reason or another, encourage it.²¹ Regardless of the country-wide situation, regional or seasonal labor scarcities are common--or landlords may perceive a scarcity even when one does not prevail.

All signs point to the use of a great deal of caution when the deleterious employment effects of the green revolution are diagnosed. Barker, et al., discovered that in the Philippines the structure of employment in rice farming changed while total demand for labor remained fairly constant with the introduction of the new technology. The reduced labor requirements for mechanized land preparation were more than offset by increased labor requirements for weeding and harvesting (Table III).²² It remains to be seen whether the labor peaks

²¹ See, for example, Carl H. Gotsch, "Tractor Mechanization and Rural Development in Pakistan," International Labour Review 107, no. 2 (February 1973), pp. 133-66.

²² Randolph Barker, William H. Meyers, Cristina M. Crisostomo, and Bart Duff, "Employment and Technological Change in Philippine Agriculture," International Labour Review 106, nos. 2-3 (August-September 1972), pp. 111-39.

Table III

Changes in Total and Hired Labor Use Patterns in the Wet Season and Concurrent Changes in Technology Between 1966 and 1970 In Selected Areas of the Philippines with High Rates of Mechanisation

| Survey Area | Labor Use | | | | | |
|---------------------------|-------------|-------|-------------------|-------------|-------|-------------------|
| | 1966 | | | 1970 | | |
| | Man-days/ha | | Per-centage hired | Man-days/ha | | Per-centage hired |
| | Total | Hired | | Total | Hired | |
| Central Luzon-Laguna | | | | | | |
| Land preparation | 17 | 3 | 18 | 10 | 2 | 23 |
| Pulling and transplanting | 15 | 14 | 96 | 17 | 16 | 99 |
| Weeding | 5 | 2 | 36 | 11 | 3 | 31 |
| Other pre-harvest | 8 | 2 | 19 | 8 | 1 | 15 |
| Harvesting and threshing | 18 | 16 | 86 | 21 | 18 | 85 |
| Total | 64 | 37 | 58 | 67 | 41 | 62 |
| Laguna | | | | | | |
| Land preparation | 20 | 4 | 18 | 11 | 4 | 37 |
| Pulling and transplanting | 10 | 9 | 95 | 10 | 10 | 99 |
| Weeding | 16 | 2 | 16 | 18 | 10 | 56 |
| Other pre-harvest | 8 | 1 | 10 | 10 | 1 | 14 |
| Harvesting and threshing | 32 | 32 | 100 | 31 | 31 | 100 |
| Total | 86 | 48 | 57 | 80 | 57 | 72 |

From Barker, et. al., "Employment and Technical Change," p. 128.

created for these operations might be so steep that mechanical processes will ultimately be substituted for hand work or many day laborers will be substituted for resident workers.

At any rate, chances are good that as accentuated peaks and valleys appear in the structure of employment, less resident farm labor will be needed. What this means is that where the patron-client relationship exists, it may well break down. This may be applauded as one more necessary step toward development, but in some countries where the system had overtones of landlord benevolence or noblesse oblige, the change is liable to be a wrenching one for many workers. When labor requirements were more or less evenly spread throughout the agricultural year, resident farm labor was called for which related the labor force to the landlord in a traditional patron-client diadic contract. Landlords frequently provided live-in workers with a house, some land and/or other perquisites while the worker provided his labor. When the rhythm of work is changed so that some labor-use peaks get very steep and troughs appear in other seasons, there is no good reason to support workers full time on the farm, so day laborers tend to be substituted for resident laborers. Frankel discusses this point with reference to India:

The rapid progress of agricultural modernization tends to undermine traditional norms of agrarian relationships based on the exchange of mutual, if noncompatible, benefits and services that have historically provided a justification for inequalities between the propertied upper and middle castes, and the landless low castes and Harijans.²³

²³Francine R. Frankel, India's Green Revolution: Economic Gains and Political Costs (Princeton University Press, Princeton, New Jersey, 1971), p. 198.

Yet labor does not always lose. In some areas of the Indus Plain where Mexican wheats have been adopted, cost of labor as a percent of crop value has doubled.²⁴ In the Hazara district in Pakistan, one researcher found that technical change in the form of new high yielding wheat varieties is definitely labor using in Lora and Oghi because mechanized harvesting is impossible on the hilly and terraced farms there. Man hours required per acre rose from 169 for native varieties to 252 for dwarf varieties.²⁵

Tenants face a very special problem as green revolution inputs come to be used and farming becomes more profitable. As land values rise with increased crop values, rents may rise. Certainly landlords will not allow benefits of the green revolution to flow entirely--or maybe even in part--to renters. They will be successful in raising rental payments because of the competition from many potential tenants for rental property. Or sometimes owners have been known to simply reclaim the leased property and work it with hired labor and/or machinery.

Of India, Frankel states rather bluntly:

Certainly, [landlords] do not hesitate to raise rentals in line with appreciating land values and/or to evict even tenants having long-standing cultivating possession of the land. Moreover, the land reform laws in all states, while largely abortive, have caused landlords to view tenants as potential adversaries.²⁶

²⁴Robert d'A. Shaw, "The Employment Implications of the Green Revolution," Mimeo. (Overseas Development Council, Washington, D. C., June 1970).

²⁵Refugio Rochin, "Dwarf Wheat Adoption by Barani Smallholders of Hazara District: Technological Change in Action," Mimeo. (Ford Foundation, Islamabad, May 1971).

²⁶Frankel, India's Green Revolution, p. 197.

There are other ways in which the green revolution may have an effect on labor use:

- 1) The green revolution might shift land away from high labor-use crops to crops that are not so labor intensive. This is not to say that shifts are unwarranted or should be foregone, but that employment consequences need to be known and acted upon by policy makers.
- 2) The technological opportunities presented by the several green revolution crops vary in their potential for creating employment. It may well be the case that rice farmers may adopt the structural labor-using forms of Japan and, because it is more amenable to mechanization, wheat may adopt the capital intensive structural form of the U.S.²⁷
- 3) Even where double cropping is not possible, green revolution varieties may require precision seed-bed preparation that hand labor cannot provide.

It is argued that the green revolution may make new demands on infrastructure that are so pressing that new jobs will be created in such activities as roadbuilding and irrigation works.

That such a potential exists, but may not be exploited is illustrated in a recent paper by John W. Thomas.²⁸ He indicates for

²⁷Kazuo Saito, "On the Green Revolution," The Developing Economies 9, no. 1 (March 1971), pp. 16-30.

²⁸John W. Thomas, "The Choice of Technology in Developing Countries: The Case of Irrigation Tubewells in Bangladesh," Mimeo., Preliminary Draft (Development Advisory Service, Harvard University, Cambridge, Massachusetts, September 1972).

Bangladesh that only with irrigation is a boro (November to May) crop in the six-month dry season possible. Therefore the sinking of 20,000 tubewells was targeted as a goal to be reached by 1975. Three tubewell alternatives existed, designated here for simplicity's sake as low cost, median cost, and high cost.

Analysis showed:

- 1) The internal rates of return--using actual and shadow prices--were substantially greater for low cost wells.
- 2) Low cost drilling techniques create far more jobs while requiring only a fraction of the capital investment used by median and high cost wells.
- 3) Slower initial capacity to install low cost wells does not offset the cost advantage in a rate of return comparison. Demand seems to lag behind installation until about the fourth year anyhow.
- 4) Farmers themselves would help install the low cost wells, thus learning how they operate; median and high cost wells would be installed by contractors.
- 5) Mobility of heavy, more expensive rigs is limited by the absence of roads and bridges while low cost rigs are light and can be transported by boat, animal cart, or even on men's shoulders. Therefore, if low cost wells are used they can be more broadly distributed throughout the country.
- 6) A higher percentage of the small, cheap rigs can be made in Bangladesh, thus stimulating small-scale industry. Repair and maintenance can also be done locally. Median and high

cost wells do not have these advantages.

Thomas concludes:

On balance the arguments for the low cost wells over median and high cost appear impressive. With low cost wells, economic return is higher, the employment and training effects are greater, the components of the wells hold greater potential for the creation of domestic industry and they will provide a broader distribution of the benefits of well irrigation.

Given the overwhelming evidence, one might imagine that low cost wells would have been used. In fact, the government requested assistance for median and high cost wells. Why this was the case is due to a number of factors:

- 1) Price distortions--inconsistencies in the tax and duty structure--made the market cost of high speed diesels less than that of locally produced engines despite the fact that the latter cost only 75 percent as much to produce. Because the Pakistan rupee was overvalued, imported equipment was obtained for as little as half its true cost to the economy.
- 2) If wage rates exceed the opportunity cost of labor as they did in East Pakistan in 1970, labor intensive methods become less attractive. When the problems of management of labor crews are added, contractors will generally adopt capital intensive methods despite the fact that this is highly inconsistent with existing factor endowments.
- 3) The form of aid frequently depends more on the requirements of the donor country than on those of the recipient. Policy makers in developing nations may accept a technology they consider second best if foreign financing is available

only for that choice. Bangladesh counted on substantial external help for its irrigation program and, hence, had little bargaining power when a determination of the kind of technology to be used was made.

- 4) Foreign drillers, who could be held contractually responsible for performance, appeared a safer bet than a decentralized operation involving a large number of low cost rigs. Besides a low cost program operating at scattered locations required a decentralized administrative system and resultant loss of control by central authorities.
- 5) For government officials, technology with the appearance of modernity is less prone to criticism than simple technologies.
- 6) The staff, equipment, procedures and mentality of foreign consultants are oriented towards high cost, high quality construction.

The first two are economic factors and project analysis techniques, such as shadow prices, can factor these out. The last four, Thomas concludes, probably figured most importantly in the decision not to use the low cost rigs.

Similarly, Timmer found that the pronounced disinclination of Indonesian officials to seek out viable labor-intensive projects stemmed, in addition to the usually mentioned economic distortions, from at least three "non-economic" sources.

- 1) It is easier from any bureaucrat's point of view to administer a few large capital intensive projects than many small ones.

- 2) Regulatory officials who expect private gain find it easier and more remunerative to "work" with larger capital intensive projects than small ones.
- 3) Donors of foreign aid have a "fixation" on capital intensive projects: they are easier to oversee and they use the available manufacturers and techniques of the respective developed country.²⁹

If the number of landless laborers is small and there is little migration from other areas, it is possible that off-farm worker conditions may improve with the introduction of new technology. Robert d'A. Shaw reports that in Ludhiana District total workers' wages increased with the introduction of new technology because laborers now find off-season employment installing tubewells and leveling land.³⁰

Small-scale farmers who can't make the transition to green revolution technology will find, sooner or later, that their already meager production is selling for less. They will either retreat further into subsistence cultivation or take advantage of high land prices to sell out. After they have left their land they will become rural landless laborers or join the hordes of migrants in town.

While jobs in industry are usually scarce, some may find jobs in artisan shops or labor-intensive factories and be better off than when they were farming. Marcus Franda believes this is currently

²⁹C. Peter Timmer, "Choice of Technique in Indonesia," Mimeo. (Development Advisory Service, Harvard University, Cambridge, Massachusetts, September 1972).

³⁰Robert d'A. Shaw, "The Employment Implications."

the situation workers face who were displaced from agriculture in the Indian Punjab. He doubts that this will continue to be the case if this process continues throughout the 1970s, however.³¹

Inability to Obtain Inputs

There is some thought that green revolution technology may be biased against the peasant. Griffin has suggested that if a single technology is used by all farmers confronting similar climatic and soil conditions, it "meets the test" and has no such bias. His conclusion is that:

At the moment, it appears that new varieties of rice developed in Taiwan are one of the few innovations that can pass this test. Technical change in Taiwanese agriculture is widespread and the reason for this, in our opinion, is that landownership is equally distributed in small parcels and that all peasants have approximately equal access to fertilizer, water, technical knowledge and credit. In these circumstances, a technical change that is profitable for one farmer will be equally profitable for all other farmers and innovation, in consequence, will be rapid and inevitable.³²

But the current situation in many Latin American countries is that rich, irrigated bottom land is owned by the well-to-do while peasants must carve out their plots on mountainsides or other land which presents some formidable natural difficulty and to which their claims are tenuous. Likewise in many Asian countries that do not have an egalitarian system of landownership, it is generally the richer farmers with the most land who can afford a tubewell or other even more complex irrigation

³¹Personal conversation with the author, February 23, 1973

³²Griffin, The Green Revolution, p. 47.

technology.

The seeds and fertilizers themselves are so highly divisible one would imagine that, given the marked increase in production that could be expected, all farm size-groups would tend to adopt them quickly. This is often the case, as research in parts of India and Pakistan seems to show. But, in countries characterized by a relatively few large farms and many small ones, credit institutions are probably effectively controlled by the large farmers. Since optimal fertilizer use is increased three or four times under the green revolution, with higher plant populations correspondingly larger short-term production loans are needed. Farmers with larger acreages will probably be regarded as good credit risks and prime candidates for loans; the cost of servicing a loan to a small farmer may be as great as that to a large one. The red tape and delay may also deter the small farmer from borrowing. Even assuming zero credit availability to everyone, large-scale farmers would be able to finance a certain level of inputs from their own savings while small holders usually find this impossible. And even if small farmers who are prevented from receiving public credit are able to borrow from the private credit market, they will probably have to pay usurious rates which may well cancel out profit. Worse yet, the peasant may be so encumbered with past due accounts that he is not able to avail himself of any credit--private or public. Essentially the same argument can be made for water supply. In areas where irrigation is necessary, water use may be controlled by those who are able to deny an allotment to small-scale farmers.

More generally, the success of the green revolution rests on how

well the non-farm sector can provide inputs: the seed-fertilizer revolution is distinguished by its increased dependence on purchased inputs. If there are bottlenecks in the distribution of these inputs that affect the quantity of the inputs delivered and the timing of their delivery, income will be affected. The chances for the large-farm sector to obtain seed and fertilizer may be greater than that of the small-farm sector simply because the large-scale farmer has more expertise in dealing with complex bureaucracies. And if there is a problem with an input shortfall, the large-scale farmer can use his personal vehicle to pick up seed, fertilizer, and pesticide at a more distant location, an alternative usually not open to small, under-capitalized farmers. Griffin believes that:

Perhaps the most important reason for the bias of the 'green revolution' is the bias of government policy. For many years research, extension and investment programmes in agriculture have been devoted to raising output (preferably exportable output); their primary concern has not been to increase the welfare of the rural population and improve the distribution of income and wealth.³³

This does not mean that those with small farms are always denied green revolution inputs. Rochin found that Barani (rainfed) smallholders in Pakistan "have adopted dwarf varieties of wheat in a remarkably short time." In Hazara they heard about it on the radio, saw it growing in demonstration plots, and were quick to purchase the inputs when available.³⁴

³³Griffin, The Green Revolution, p. 48.

³⁴Rochin, "Dwarf Wheat Adoption by Barani Smallholders of Hazara District."

Other Distributional Considerations

Several other points dealing with the green revolution have distributional consequences the direction of which is hard to predict:

1. The green revolution may shift the cropping pattern from food legumes which are rich in cheap protein needed for the diets of the rural poor (like beans) to crops that are higher in carbohydrates (like wheat).³⁵
2. If a government is successful in taxing the beneficiaries of the green revolution (a highly dubious matter), who will benefit from the resultant public expenditures?
3. If the resultant food is exported, income effects will depend on who gets the foreign exchange that is generated. Will the government get a share? If so, how will it be used? What will happen to the share retained by individuals? Will it make up an income stream for the already rich with little "trickle down" effects on the poor? Will it be invested in towns or in the countryside? Will it be used for conspicuous consumption? Will it be sent out of the country and hoarded abroad?
4. People in remote areas, regardless of farm size and command over resources, will benefit less than their counterparts nearer towns or those that are connected by good roads to cities (ceterus paribus).

³⁵Uma Lele and John W. Mellor, 'Jobs, Poverty and the 'Green Revolution', "International Affairs 48, no. 1 (January 1972), pp. 20-32.

5. If one region within a country profits while another lags behind, the stage is set for internecine conflict.

Implications for Policy

An Integral Agrarian Reform

The type of land tenure system seems a rather crucial variable in determining how technology is shared and, hence, how income streams are directed. Griffin claimed that one reason for the wide spread of high yielding rice in Taiwan was the egalitarian landownership pattern.³⁶ This system seems propitious for a broad sharing of income benefits. If inputs are provided it also fosters substantial growth.

In regions where a few own most of the good land while the vast majority of those who own land have very small plots, technology will probably flow to those who already have most resources and the gap separating the rich and the poor will grow. In this situation countries may show substantial economic growth--but its benefits will probably accrue to a very small group.^{36a}

In situations where ownership of units may be by a small group and tenancies are small and relatively equal but tenants have no control and little power--as in the Philippines--results may be mixed. If new inputs come to be widely used, sharecropping and cash renting tenants may be evicted as their profit grows--or their rental payments may be increased. Another possibility is that tenants may be unwilling to make any kind of long-term investments because they feel themselves

³⁶See the quotation on p. 23.

^{36a}This is the case in much of Latin America. See also Leslie Nulty, The Green Revolution in West Pakistan (Praeger, New York, New York, 1972) and the review by James M. Blume in War on Hunger, Vol. VII, No. 4, April 1973, p. 22.

so insecure.

A land reform designed so that rights to property are widely shared is in order for areas where much of the land area is owned by a few farmers. These governments should follow a vigorous "growth with distribution policy," and it should doubtless begin with a sweeping land reform to re-shape agrarian institutions in a more egalitarian fashion so that they become amenable to the adoption of technology without concentrating income that results therefrom. But care must be taken so that the post-reform tenure system:

1. Will promote enough security so that beneficiaries will be encouraged to invest.
2. Is accompanied by credit, technical assistance, marketing, and extension facilities designed for beneficiaries.
3. Will not encourage beneficiaries to sell their rights to a small and powerful group not affected by reform.

In Bolivia, for example, (1) and (2) were not provided for after reform and while ownership on the altiplano is much more egalitarian than in the pre-reform period, the potential for growth is weak.

Land reform (defined as providing each plot holder with an individual title to his property) is probably not appropriate for communal lands, especially those in much of Africa, for it might destroy the implied social security system in which clan members have a claim to a piece of land as long as they live. It is very possible that many would sell out under an individual plot system before the industrial capacity in town was able to absorb them productively. The existing system in most countries is not entirely rigid: "pledging"

affords some flexibility to expand one's control over land for limited periods.³⁷ If a policy of "individualization" were vigorously pursued in communal Africa, the same situation might develop as in the period of liberal reforms in nineteenth-century Mexico and Central America where much land was taken from indigenous communities. It would seem appropriate for communal Africa to by-pass a Latin American-type land tenure system.

The major problem in communal areas is that while the peasant is secure and ownership of wealth is more or less egalitarian, there is little growth. Growth could be fostered by development of an effective government-subsidized input delivery system and/or the farmers could be provided with credit using the crop and not land as collateral. Changing the ownership structure of agriculture is likewise inappropriate where farms are already fairly uniform in size.

In most countries where reform is called for and where tenants are already cultivating small plots, the post-reform institutional pattern will probably be the family farm. This may well have positive production implications. It has been found in a number of countries that production per acre is inversely related to farm size and the employment potential of the small farm is perhaps greater than any other type of post-reform tenure except, possibly, that prevailing in China about which we have insufficient evidence.

The small farm holds so much employment promise because when employment opportunities are few the small farmer tends to use his

³⁷Richard Barrows, "Land Tenure and African Agricultural Development," Mimeo. Land Tenure Center, April 1973; and Alemseged Tesfai, "Communal Land Ownership in Northern Ethiopia and Its Implications for Government Policies," Ditto. Land Tenure Center, December 1972.

own and family labor up to a point at which additions to output resulting from additional labor use are zero. On the other hand, large farmers would hire additional workers only up to the point that the marginal cost (wages) is matched by marginal return.

When farm sizes are small, farmers can be expected to adopt those technologies of the seed-fertilizer revolution that are neutral to scale, and probably not those, such as large machinery, that have economies of scale. This means that seeds, fertilizers, small-scale machinery will probably be adopted while caterpillars, self-propelled combines, etc., will not unless farmers are organized into groups or, more specifically, into unions or cooperatives.

Because it is so difficult to work with individual peasant cultivators (unless they are organized), and because of the high cost of land division in hacienda agriculture, some countries will favor producer cooperatives for their post-reform settlement pattern.

Where it is called for and where massive land reforms are not politically feasible (or where they have been already carried out), more assistance must be directed to the existing small-farm sector so that new and more secure income earning opportunities are created in rural areas. It should be remembered that this, too, is a delicate political matter: there either must be a resource shift from whatever privileged sub-sector has been the major recipient of public funds heretofore or a net addition to expenditures on agriculture.

Major new research efforts are required to develop the technology required by the existing small-farm producer, and by all agricultural units following basic structural reforms. Up to the present, even

biological research has been highly selective, concentrating on high-yielding varieties of wheat and rice and on export crops. The work of international research centers like the corn and wheat center in Mexico (CIMMYT) and the rice center in the Philippines (IRRI) must be expanded to include additional crops (including those that do not call for such careful water control) and livestock, especially those grown on small farms. Also in-country research capacity for analyzing the problems specific to each must be developed.

All technology--but especially that which is mechanical in nature--must be tailored to fit surplus labor conditions existing in most LDCs. Some would argue the impracticability of developing machine technology for small farms. Yet the record of agricultural performance in countries with small-farm systems, such as Japan and Taiwan supports the opposite argument.

In most countries, the primary emphasis should be placed on land-saving technologies if both increased production and employment objectives are to be met. This does not preclude the introduction of some types of mechanization into the small-farm sub-sector, provided they are specifically designed with small farms in mind. For example, a well-adapted garden-type tractor with complementary implements would be particularly valuable on small farms. A garden tractor may indeed be labor-saving, but it is also land-saving inasmuch as it permits working the land more intensively, often improving yields.³⁸

Research on the technology itself is only one basic requirement.

³⁸See Peter Dorner and Herman Felstehausen, "Agrarian Reform and Employment: The Colombian Case," International Labour Review 102, no. 3 (September 1970).

In addition, it is necessary to provide the institutional framework that will deliver it to small-acreage farm producers and beneficiaries of agrarian reform. These include delivery systems for:

- (1) farm credit
- (2) improved production inputs
- (3) marketing farm produce
- (4) technical assistance
- (5) formal and informal rural education, health, family planning, etc.

Past policies favored designing delivery systems for the large-farm sub-sector; the small-farm sub-sector has been largely neglected. While it is recognized that both sub-sectors require a variety of services, it should also be acknowledged that service needs of the small-farm sub-sector may be completely unavailable in the community because large farmers don't need them. Or they may exist but be weak because they aren't used by large farmers and hence are under-capitalized.

Improved delivery systems for reaching small producers can be approached in various ways. In some cases, it may be best to restructure the public service agencies now operating in this field. In other cases, special agencies may be called for to serve the needs of all producers of a specific crop, (as, for example, is currently the case with coffee in Colombia and sugar beets in Chile). Social science research into the design of delivery systems is probably fully as necessary as research on the technology itself. Put bluntly, there has been little experience on how to effectively design programs to serve millions of small producers scattered over the

countryside.

Sometimes the Puebla Project in Mexico and the Comilla project in Bangladesh are cited as successful input delivery systems. In fact, there are very few examples.

A rather high cost model which could be modified in poorer countries is the CIARA program (Fundación para la Capacitación e Investigación Aplicada a la Reforma Agraria) that operates in Venezuela with funds from the national agricultural bank.³⁹ Basically, it makes loans to asentamientos (agrarian reform settlements in which, unlike the Chilean case, usually consist of individually farmed plots) which, in Venezuela, tend to be meted out only when there are good chances of its economic success--when technology for increasing yields is known.

In general, only asentamientos with a rather strong local organization are chosen for participation. Under this scheme, a "borrowers' union" is founded of all potential borrowers. The union discusses its production and credit problems. Each union is given some technical advice by an agricultural technician (perito agrícola) who services it and several neighboring unions. The banking process is streamlined by having one borrower represent the union. Input orders can be pooled by this selected campesino and handling and delivery costs are thus reduced.

Besides strict supervision and the provision that nearly all who want credit can receive it, there are other differences between CIARA

³⁹This description is taken from William C. Thiesenhusen, "Green Revolution in Latin America: Income Effects Policy Decisions," Monthly Labor Review (March 1972).

and regular agricultural banks' credit programs. The latter issue cash at three times during the growing season. Credit is mostly in kind to help insure that the proper blend of inputs are used. The regular credit program did not fill total normal needs for a crop. CIARA plans its loans so that they completely cover operating costs from soil preparation to harvest. When machine work is needed, the operator is paid directly by the borrowers' union after the work is accomplished. Cash is loaned directly only when campesinos have to pay labor or when funds are specifically approved for consumption purposes.

To decide on the physical inputs required, a detailed asentamiento cropping plan is prepared. Officers of the union (primarily the secretary general who is an elected asentado) and the perito agrícola discuss possible alternative cropping plans for each farm with its owner well in advance of the planting season. In accordance with CIARA's "one step at a time" policy, however, the cropping alternatives open to farmers the first year they participate are quite circumscribed; land parcel holders who want to grow nontraditional crops are invariably turned down. CIARA's first priority is to close the wide gap between current and potential productivity in the traditional crops. At one settlement studied, it was estimated that given proper management and a satisfactory input mix, corn yields could economically be pushed to an average of 2,500 - 3,000 kilograms per hectare, from the 1965 and 1966 levels of 749 and 1,282 kilograms respectively.

After each farm plan is complete, the perito agrícola combines those of all farms on the asentamiento. The master plans go to the

ingeniero agrónomo for the zone who combines all of the plans in the state. Technicians decide what inputs would have to be supplied, how much tractor work would be needed, how much day labor is to be financed, and (allowing for some flexibility) the amount of cash subsistence payment needed. When changes in the farm plans have to be made, they are discussed with the perito who takes up the matter with the farmers. The complete plan is finally approved at a general meeting.

The bank through CIARA issues to the borrowers' union the total amount of credit called for; the ingeniero agrónomo orders all inputs in truck loads. For cash needs, a local bank account in the name of the borrowers' union is opened. The union draws checks on it which must be signed by one of its elected officials.

There are very little data on the success of this program, but recompensation rates substantially increased over pre-CIARA days when agrarian reform beneficiaries came to regard production loans as a subsidy. Repayment rates in themselves are some indication that production is rising.

Other Policy Priorities

Programs that provide advanced education to agricultural technicians should also be re-evaluated. Are enough being produced to meet the country's needs? Is the training being received appropriate to the changing conditions of the countryside? Are they receiving enough training or, conversely, are they receiving so much that they leave agriculture or possibly even the country after their schooling

is complete? Furthermore, special government efforts are required to provide the incentives and conditions necessary for locating more of the existing trained people (agriculturalists, health and social service workers) and the facilities they need in the rural areas rather than encouraging their over-concentration in cities.

In addition to distributive land reforms and programs designed specifically to serve the needs of small-farm producers and a reformed tenure structure in agriculture, there is a need for special programs directed at employment creation in rural areas. This is especially true because there are so many landless peasants in most countries who will not be able to receive land without excessive fragmentation resulting. Some possibilities for employing this group are:⁴⁰

- (1) If land is redistributed and special efforts are made to reach small farmers with services to increase their incomes as outlined above, there will be an expanded market for many new inputs among this large segment of the farm population. This will open up many opportunities in rural areas for the establishment of local industries to produce such inputs as hand seeders, hand pumps, animal-drawn implements, construction materials, new seeds, containers such as bags, boxes, baskets and cartons, etc.
- (2) Likewise, with a production structure geared to a wider market demand, farm output processing industries in many

⁴⁰See Monroe Rosner, "The Problem of Employment Creation and the Role of the Agricultural Sector in Latin America" (Ph.D. diss., University of Wisconsin, 1972).

rural areas should become profitable--such as canning, freezing, drying, curing, packaging, etc. It is of critical importance for the integration of rural people into society that an increasing number of these rather labor-intensive industries be located in rural areas and small towns rather than concentrated in central cities.

- (3) Public rural employment programs can be started to provide jobs in the construction of infrastructure such as irrigation works, drainage systems, schools, roads, community centers, and communication facilities. If people construct these works in areas in which they live, such that benefits accrue to them there incentive to produce will be enhanced.
- (4) In those countries where new land areas or a frontier is available, colonization and resettlement projects can be designed, provided they are not too expensive per beneficiary.⁴¹
- (5) A minimum wage policy for rural wage workers should be enacted and enforced.⁴²

Without strong rural organizations pressuring for change, there may be little incentive for redistribution and a widening of opportunities. While authoritarian measures can carry development to a

⁴¹Costly colonization projects with small numbers of beneficiaries cannot be considered as a serious and defensible rural development program. Since countries have extremely limited resources, rural development programs must be designed to have an impact on large masses of people.

⁴²While minimum wages have in the past often led to a reduction of jobs, this would not be so likely after a restructuring of the land tenure system and policies that priced capital at its true scarcity value.

certain stage, it is the mass of common people who must provide the markets to keep the process going. This requires widely shared economic and political citizenship which can be realized only through the reallocation of power.

In its final report, the Special Committee on Agrarian Reform of the Food and Agricultural Organization of the United Nations,⁴³ noted several conditions leading to some of the basic agrarian reforms of the past several decades. Peasant organization and involvement in pressing for the political decision to reform characterized many cases.⁴⁴ Peasant organizations also frequently played a major role in the reform implementation. On occasion peasants took over the land even before the Government took formal action. Such organizations are also essential for achieving "freedom of status," which no longer means simply breaking feudal patterns of land tenure but also acquiring the ability to help with the creation of a new structure, with the management of rural services, and with the whole range of national policy measures directed at rural development.

By way of contrast, the Committee noted that in those countries where only modest reforms were achieved, peasant organizations were often circumscribed in a particular way, restricted to certain functions, or even prohibited by law.

⁴³United Nations Food and Agricultural Organization, Report of the Special Committee on Agrarian Reform, Rome, 1972.

⁴⁴See Rodolfo Stavenhagen, ed., Agrarian Problems and Peasant Movements in Latin America (Anchor Books, Garden City, N.J., 1970), especially the articles by Huizer and Landsberger and Hewitt. Also see Marion R. Brown, "Peasant Organizations as Vehicles of Reform," in Land Reform in Latin America: Issues and Cases, Peter Dorner, ed. (Madison, Wisconsin, Land Economics Monograph No. 3, 1972), pp. 189-206.

International conventions recognizing the right of workers to organize and engage in collective activities must be honored. Such organizations must not be dominated by employers or controlled or dissolved by governmental authorities. They should be encouraged in their rural community development efforts. The integration of local associations into regional and national organizations is the means by which peasant participation can become effective at various levels of rural service administration and development planning.⁴⁵

International assistance agencies clearly cannot and should not make decisions for national governments. Yet neither are they completely passive or neutral participants in this process. Governments are made up of individuals who represent a wide variety of interests and ideological commitments. There is no homogeneous, monolithic view on such fundamental issues as those represented by development policies and strategies. Minority positions may well evolve into those of the majority--sometimes over a short period of time. Diversity and conflict inevitably exist, political situations in many countries are relatively fluid, and new alignments of power sometimes emerge very rapidly. International assistance agencies can certainly help to support and strengthen such minority positions operating within governments if such positions are, as defined above,

⁴⁵The following points are adopted from Peter Dorner, "Problems and Prospects of Multi- and Bilateral Assistance for Agricultural Development," statement prepared at the request of United States Senate Appropriations Subcommittee on Foreign Operations, June 2, 1972; and William C. Thiesenhusen, "Rich Lands, Poor Lands--A Perilous Gap Between," The Milwaukee Journal, March 5, 1972.

socially desirable.

At the very least, such agency heads or their representatives must speak out vigorously on vital issues irrespective of what individual governments may say or do. This is entirely appropriate; the United Nations has on numerous occasions enunciated the principles proclaiming full "participation of all members of society" and the establishment of "forms of ownership of land and of the means of production which preclude any kind of exploitation of man, ensure equal rights to property for all, and create conditions leading to genuine equality among people."

Still, international assistance agencies are limited in the action they can take. Such agencies cannot by-pass national governments to reach and influence directly the people in the receiving country. Thus, when channeled through the existing governmental bureaucracy, assistance directed at helping the underprivileged may often fail to achieve its intended objectives.

Nevertheless, some possibilities do exist.⁴⁶ First, if a national government is able to muster the political will and overcome the forces of presently entrenched interests, international assistance agencies should make every effort to help such a government restructure its economic system if this will lead to wider participation.

Second, international assistance agencies should take every precaution to ensure that their efforts--advertently or inadvertently--

⁴⁶These points are from Peter Dorner and William C. Thiesenhusen, "Latin American Rural Development Strategies for the 1970s," prepared at the request of the Organization of American States, August 1972.

do not work counter to the urgent requirements to create more jobs, improve income distribution, and elevate the conditions of life of the mass of people at the bottom of present income distribution pyramids. In selecting and evaluating projects, these agencies should give preference to those which hold most promise for benefitting the large mass of rural people rather than the privileged few. The social, employment, and income distribution effects of development projects should be accorded weight in benefit-cost calculations. Assistance should be withheld from projects likely to lead to increased concentration of wealth and income and to greater social inequities. To see what social effects various types of loans have, lending agencies should attach a research component to some of them with the explicit purpose of finding out whether the lower-strata of society is in fact benefitting.

Third, there should be better communication and coordination among the various multi- and bilateral assistance agencies and with national agencies in any given country. Ideally, such coordinative efforts should be made within the country's own planning process. There should be sufficient similarity of purpose and criteria so that the international assistance agencies are not operating at cross purposes. A major effort needs to be made to strengthen the in-country capacity for independent research, analysis, and evaluation which should precede and accompany all major development programs to make certain that benefits reach the poor.

Obstacles to development are not only or all political. The

analytical framework within which development is conceived also bears on these issues. Because development is too often equated with growth in average per capita output in the economy as a whole, investments are channeled to those projects which promise the highest short-run rate of return within the present structure of resource ownership. And cost-benefit ratios are computed on the basis of the prevailing patterns of resource ownership and income distribution. Such calculations ignore the needs and the demand-potentials of the peasant sector, whose present low incomes and expenditures carry little weight in such calculations. Consequently, rural investments from both domestic and foreign sources have favored projects promising the highest rate of return within the present structure of demand, often emphasizing capital intensive rather than labor intensive techniques. This has often been the pattern followed for investments in the industrial sector as well as in the commercial agricultural sector.

That this conceptualization and analysis is based on false premises has already been explained. The direct relationship between investment and productivity (irrespective of the resource ownership structure) and the creation of new job opportunities and improved income distribution does not exist. In the agricultural sector, agrarian reform along with other measures in the suggested new strategy for rural development can be key issues in linking investment, productivity, employment, and a more egalitarian income distribution. Past strategies often ensured that most of the benefits of development efforts accrued to those who opposed institutional re-structuring.

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INTERNATIONAL DEVELOPMENT ASSOCIATION

LAND REFORM AND PARTICIPATION OF THE RURAL POOR
IN THE DEVELOPMENT PROCESS OF AFRICAN COUNTRIES

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LAND REFORM AND PARTICIPATION OF THE RURAL POOR
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David J. King*

The presumption of this paper is that "participation of the rural poor" refers to the active and willing participation of rural peoples in the development of the nation-state in which they reside. Such participation requires that these people not only share in the distribution of the benefits of development, be they the material benefits of increased output or other benefits considered enhancing to the quality of life, but that they share also in the task of creating these benefits. For participation of the rural poor to be "willing," it is necessary that these people consider themselves to be full members of the state and that the state recognizes their status as citizens. It also requires that these citizens consider the development objectives of the nation-state to be commensurate, or at least not inconsistent, with their private objectives. Thus the development process has both political and economic dimensions.

The role of development planners, officials of nation-states, and other people and agencies (including the World Bank) which purport to foster the development process, must see the creation of a structure whereby more and more people have opportunities to participate in that process

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as the objective of programs, projects, and policies they suggest and instigate. This may be achieved by providing economic inducements and incentives, political and economic security that provide the framework for new opportunities, and by helping people to develop their abilities so that they can take advantage of new opportunities. Development is achieved by people able and willing to take advantage of new opportunities to participate in the nation-state economy. What constitutes development for a nation-state should not be defined by a powerful few who either hope or require that people agree. It is the participation of the people which shapes the development process and substantively defines development of the nation-state.

It is evident that the majority of people (but not all) who reside in what are considered the developed countries of the world are participants in the development process, both politically in that they are recognized as full citizens of the nation-state, and economically in that they have a job, occupation, or opportunity recognized as part of the business of the nation-state. Likewise, a common characteristic of the diverse less-developed countries of the world is that the majority of their peoples are not active participants in the development process. Most people do earn a living, but in a manner that involves only their survival, subsistence, and traditional way of life. Unless they are recognized as citizens with political rights which are enforceable, there is no security and few inducements for people to use their labor and abilities in ways that enable them to control and pursue those of their objectives which are consistent with those of the nation-state.

Dimensions to Increasing Participation in the Development Process

Increased participation in the development process of the presently developed countries¹ has been a function of two interdependent (both equally essential) factors: first, the expansion of the wealth of the nation as a result of the increased productivity of resources through improved efficiency and economy in their use, combination, and organization; second, the creation of property rights and expansion of the scope of property to include the expected exchange-value in the future marketability of anything.

As is still true today in many LDCs, most people in Britain, U.S., Western Europe and other presently developed countries once were concerned with scratching out a living with meager resources at their disposal and were continually at the mercy of nature. Economic activity was primarily based on the mixing of one's labor with the soil and other natural resources. From the eighteenth century onwards great strides were made in reducing this critical source of debilitating insecurity in the lives of men.² New resources and technologies, and new ways to combine resources, especially the potential productivity of the division of labor, were discovered, tried, and adopted. Increased productivity of resources released human potential and energy from the struggle to subsist to the pursuit

¹The ideas developed in this section depend heavily on John R. Commons, Legal Foundations of Capitalism (University of Wisconsin Press, Madison, 1923). Commons draws his material from the Anglo-American experience. For an application of Commons' ideas to the broader scope of the agricultural development problems of the LDCs of today, see K. H. Parsons, "Agrarian Reform Policy as a Field of Research," U.S.D.A.-E.R.S. Paper, Washington, 1962.

²Commons, Legal Foundations of Capitalism, p. 41.

of economic expansion and other development objectives. It is the highly visible consequences of improved efficiency and new technologies in the histories of present-day developed countries that has led many development planners and policy makers for the LDCs to concentrate, at times almost exclusively, on trying to release the man-nature constraint to the productivity of resources by attempts to discover and adopt new technologies and resource combinations suitable for these countries.

However, exclusive focus on reducing the uncertainty that comes from the low productivity of resources is inappropriate, because a more critical insecurity facing man is the possibility of arbitrary intervention in his affairs by a person or persons more powerful than himself. Since the majority of the people in the pre-development phase of the present developed countries had to survive and subsist by dint of their efforts to till the soil, it was in the interest of all that rules be developed and enforced which prevented a man from benefiting at the expense of another's subsistence opportunity. Over time, the customs of the community came to protect the right of everyone to a subsistence opportunity against the arbitrary action of others, but by the same token, it became difficult for an individual or group to take advantage of opportunities to improve their own lot beyond the subsistence level.

A fundamental change has been the reduction of these insecurities of life so that the energies and enterprise of people are no longer primarily directed towards survival, and mere subsistence. They can now be used for an individual's own benefit, so long as one's efforts do not unreasonably exploit or compromise the efforts and objectives of others, and are considered consistent with the public interest. Much, if not most,

of the increased productivity of resources has been achieved through the enterprise and innovativeness of people who expect the state to back their personal claims to at least some proportion of the rewards of their efforts.

For the majority of the people in the developed countries of the Western world, the creation, and widening scope of property rights recognized by the state provided the certainty necessary for active and willing participation in the development process. Property rights provide persons or groups of persons³ with the immunity against the claims from other persons, be they private individuals or public officials.

In most Western countries, the pre-development phase was primarily an agricultural one. Hence property emerged first as the rights to the physical thing--land. The key to the creation of property rights in land is the commutation of indefinite obligations into fixed rents and taxes, which guarantee that the property holder can use the residuum of his opportunity from rights in land for his own benefit. The property holder has the power to enlist the state on his behalf if others attempt to infringe on his rights.

Property provides the basis of security, liberty, freedom from constraint, citizenship, and the opportunity for each property owner and citizen to participate in both the government and the wealth of the nation-state, i.e., in the "commonwealth."

Property gives the owner both the power to enlist the officials of government in one's behalf and a common interest with other property

³Property rights are not vested exclusively in individuals in developed countries; corporations, partnerships, cooperatives, unions are all examples of collective organizations recognized as legitimate by government, and owning property according to the rules and procedures established by such collectives.

owners in the continuing stability and development of the state. From the perspective of the property owner, the basic principle of participation in development of the commonwealth came to be: "Let any person get rich in so far as he enriches the commonwealth but not in so far as he merely extracts private wealth from the commonwealth."⁴ From the perspective of the nation-state, "the question to be asked is not what is a private purpose over and against a public purpose: but, is the private purpose also a public purpose, or merely private?"⁵ The role of government in the development of the commonwealth is not that of specifying what people should do, but of setting limits as to what citizens may not do in pursuit of their private purposes. Between the areas an individual must avoid there is a zone of private discretion. The pursuit of legitimate private purposes shapes the development process and expands the commonwealth.

To attempt to give a full account of how the limited agricultural commonwealth has been and can be expanded to become a commonwealth of all the people is inappropriate in the context of the topic of this paper, but an outline of the changing scope of the concept of property may be helpful in explaining the basis of inclusion of the masses of the people.

The rent bargain concept of property is of a physical thing and the uses it can be put to--i.e., corporeal property. The courts enforce the right of the owner to the use of the land and restrain others from trespassing and from any action that would compromise the power of the owner

⁴ Commons, Legal Foundations of Capitalism, p. 227.

⁵ Ibid., pp. 326-7.

to increase the supply of goods and the use-values of the property. Although a subsistence farmer may derive security and liberty from the protection of the physical thing owned, land, modern farmers or farming groups produce and sell their products. They produce for the exchange-value rather than use-value of their crops. Land gives them more than producing power; it gives them the bargaining power to increase exchange-value. Exchange-value is not corporeal since "it is the market-value expected to be obtained in exchange for the thing in any of the markets where the thing can or might be sold."⁶ The transition in the meaning of property from specific things to anything intangible that has exchange-value requires that the transferability and negotiability of assets be recognized as legitimate. Legally recognized intangible property rights have been expanded beyond agriculture so as to include all facets of commercial and business activity including property that adheres to people or persons themselves.⁷ In the developed countries of the Western world, the widening scope of property rights has formed for the majority of people the basis of the right to share in the commonwealth and of the opportunity for active and willing participation in the development process of the nation-states in which they reside.

A critical issue for less developed countries where participation of rural people in the development process is limited is the expansion of the commonwealth through incorporation into itself of increasing

⁶
Ibid., p. 19.

⁷The enforceable rights of labor to pursue an occupation, to negotiate the value of compensation, and to enhance opportunity through education are examples of intangible property that adheres to the person--personalty, and not realty.

numbers of people who reside in the country. In the presently developed countries of the Western world, it has usually been possible for the participants in the development process of the nation-state to agree that it is in the interest of the commonwealth that some part of the increased economic wealth of the nation be used as the means to create property rights in persons who are outside the process so that there may indeed be increased participation in the future. Such a policy is in the interest of existing participants, especially when a majority of people are outside of the commonwealth, because non-citizens may well resent their impoverished state and, associating it with their exclusion from the commonwealth, try to destroy the commonwealth. There is little to lose for those who are excluded and see no foreseeable change in their status in trying forcibly to replace the existing structure of the economy with one that might include their participation.

Some other points need to be borne in mind when increased participation in the development process of Western countries is considered for the purpose of throwing light on how to increase participation in the development process in LDCs. First, is that the inclusion of people as property owners and citizens with opportunities to participate in development was a slow process, and one that included much struggle, some violence, even revolution and civil war. Although conflict and some struggle are probably inevitable for the majority of people in less developed countries to achieve participant status in the development process, in many of these countries there are reasons to believe that the process of inclusion need neither be so slow, nor be so marked by severe nation-wide revolutionary upheavals. Optimism in this regard is based on two factors.

First, because LDCs can adapt and adopt the backlog of skills in organizing resources to be more productive and the technologies developed elsewhere, there is considerable potential for more rapid expansion of (if not distribution of) wealth in these countries than was possible in Western Europe. Second, especially in Africa, but also elsewhere, many of the political leaders of less developed countries are acutely aware of their responsibility to attempt to represent and act on behalf of all the people in their efforts to promote national development; this is a sharp contrast to the attitudes of nineteenth-century and earlier leaders in Western Europe.

The second point to be borne in mind when considering the relevance of developed country experience is that the majority of people achieved participant status as laborers in wage employment and not as owner-operators of farms, nor as businessmen or entrepreneurs. The agricultural commonwealth provided relatively limited participation of rural people in the development process. However, it did provide the first most important basis of participation from which others grew. In the less developed countries it is to be hoped, and expected, that opportunities to participate in the development process will be created simultaneously in agricultural, commercial, and industrial sectors. In fact, with rapidly increasing populations, who are often aware of the advantages of participation in the development process and actively demanding an opportunity to do so, it is essential that opportunities to participate be developed in every sector. Since the majority of people in less developed countries are predominantly rural and rely on their use of land as the basis of their subsistence opportunity, the land will have to provide the basis both of

opportunities to participate in the agricultural development process and of retaining the customary means of subsistence for increasing numbers of people for some time to come.

The final point to be borne in mind in relating developed country experience of increasing participation to less developed countries concerns the nature of customary rules of behavior in traditional society, and the way in which they are modified and generalized in the development process.

In the developed countries of the Western world the establishment of an agricultural commonwealth through the commutation of indefinite tithes and rents into fixed money rents and taxes led to the gradual disappearance of those personal reciprocal obligations to defend each others' opportunity to survive and subsist. The customary institutional arrangements were generalized into law which depersonalized and formalized the personal reciprocal obligations into contractual obligations.

It is likely that in the less developed countries the creation of opportunities to participate in the agricultural development process from opportunities to subsist will also entail the depersonalization of the customary institutional arrangements into some form of limited contractual agreements. However, it does not necessarily mean that these depersonalized contracts will, or should be, on an individual basis. If, as in many African countries, a tribal lineage group or extended family is the customary unit for organizing both the economy and the society, it may well be that the formalization and depersonalization of customary institutional arrangements into a system of rules sanctioned by the nation-state should be based on some, or one, of these collective organizations.

It should be emphasized that the concept of land reform proposed in this paper is one that takes as its premise that the customary working rules with regard to the use, occupancy, and ownership of land incorporated into the

traditional system of land tenure have to form the basis for the new system of land tenure. The importance of building on, generalizing, and transforming the customary working rules and institutional arrangements when a new system of land tenure is to be established is exemplified in most successful land reform programs. Land reform that imposes a system of land tenure which replaces the existing system by fiat is likely to be alien to the rural people and incompatible with the customary working rules with regard to land that they understand and in which they have confidence. Such land reform is unlikely to provide the basis of increased participation in the development process.

On the basis of the preceding analysis, four sets of circumstances can be identified which create difficulties for less developed countries in increasing participation of their poor (and, at present, predominantly rural) people in the development process. It is also possible to indicate whether or not these difficulties are generally experienced:

- (1) Where the resource base is small in relation to the increasing number of people who are trying to eke out a subsistence livelihood by using it, use of resources is relatively efficient, and prospects for increasing productivity several fold remote, the possibility of using part of the resource base to provide opportunities for many people to participate in the development process are diminished. This difficulty is worsened where population is increasing rapidly. It is particularly severe in those countries where there is a high density of population in relation to land available as the basis of agricultural subsistence opportunities, and only insignificant non-agricultural enterprises.

Many of the South Asian and Southeast Asian countries face this kind of difficulty to some degree in increasing participation

in their development processes. In many African and some Latin American countries there are land and other resources that could be used as the basis of agricultural development opportunities rather than for subsistence purposes. However, these countries will also be faced with the same problem as a result of rapid population increase unless major progress is made in the next decade in getting the development process underway.

- (2) Participation in the development process may be denied to a proportion, even a majority, of the population because a minority in the population controls an inequitable share of the resource base. The emergence and perpetuation of such inequity is frequently based on the inability of those excluded from an equitable share in the resource base to enlist the powers of government on their own behalf to rectify the situation. The powers of government are not used to rectify the situation but may reinforce and widen the division between the included and the excluded. The typical example of this kind of situation occurs in many Latin American countries.
- (3) Part of the population, again sometimes a majority, may find it difficult to participate in the development process of the nation-state because they have less than full citizenship, even though they do have access to sufficient land, resources, and other services (e.g., education) to form the potential base for participation. However, the use of resources at their disposal is a privilege from the state; it may well be subject to restrictions and controls formulated by the state. It is

quite possible that public officials may have (what they view as) the best interests of the people at heart in their actions, policies, and decisions, but there is always the insecurity that this need not be the case in the future. This kind of difficulty of increasing participation in the development process is particularly to be associated with colonial policy. There are few clear-cut cases of this problem left in the world, except perhaps for Southern Africa.⁸

- (4) Customary working rules and institutional arrangements may support and protect the right of all in the community to whom they apply to a subsistence livelihood, but may do so at the expense of prohibiting actions that might provide individuals, groups, or even the whole community an opportunity to participate in the development process of the nation-state.

⁸ Clear evidence that these indigenous populations regard citizenship as essential for their participation in the development process has been given recently in the case of Rhodesia. The government proposal for constitutional amendments that would, over time, give many Rhodesians greater participation and weight in policy formation for the nation was rejected, largely because the indigenous population was not convinced that it would acquire full citizenship. During the interim between commitment of the present government to future citizenship status for all Rhodesians sometime in the future and the actual realization of that citizenship, there would be little recourse for the indigenous population if there was a weakening of commitment among public officials who act on behalf of, and in response to, the (legally recognized) citizens of Rhodesia. The significance of demands for "No Independence before Majority African Rule" is that unless the African population receives full status as citizens of Rhodesia with the right to enlist the government's powers on its own behalf, before the government of Rhodesia is free to define public policy and public purpose solely in terms of what its citizens and their representative public officials decide is appropriate, then there is no assurance that the African majority population will ever become citizens. Without full and secure rights of citizenship, there is little prospect that Africans will be able, or be willing, to be participants in the development process of Rhodesia.

As already discussed, many countries must also resolve other problems that will limit rural participation in the development process. It is only in those African countries not as yet severely pressed by increasing population, where colonial intervention did not lead to the destruction of customary working rules and traditional institutional arrangements, but where there has been very little development of non-agricultural enterprises (and consequently limited opportunities for increased participation in non-agricultural development), transformation of agricultural institutional arrangements is the key problem to be resolved for increased participation of rural people in the development process.

The role of land reform is most directly to be perceived in the context of modifying the agrarian institutional arrangements so that they support participation of rural people in the development process. The system of land tenure, which defines the interrelationships between men in the use and occupancy of land, is the central feature of both the social organization and the system of economy of communities that rely on agricultural production as the basis of their subsistence and survival.

The subsequent sections of this paper focus on establishing the need for, and role of, land reform and other agrarian reforms that modify existing tenure systems and other institutional arrangements which presently protect subsistence opportunities but impede increased participation of rural people in the development process. The analysis is cast in the specific context of African countries, south of the Sahara, where it can be shown that this is indeed the major bottleneck to increasing rural participation in the development process.

There is little popular demand for land reform in most African countries (Ethiopia may be the major exception). Many African countries do face pressing and growing demands from the people for participant status in the development process. In order to make the case that land reform and/or other agrarian reforms may truly be necessary, three facets of the argument are developed to show:

- (a) that there is no prospect of providing opportunities to participate in the development process to all those who now demand, and will demand, such opportunities in the future, by expanding opportunities to participate in non-agricultural enterprises. This is shown in the discussion of how problems of inadequate participation in the development process emerged;
- (b) how traditional land tenure systems of Africa do impede increased participation in the agricultural development process through the same features that protect rights of all to a subsistence livelihood using the land. There is an attempt to show that the evolution and change of land tenure systems may also not necessarily lead to increased participation in the development process;⁹ and
- (c) the prospects for successful modification of land tenure systems through land reform and other agrarian reform measures to increase rural participation in the development process. They are appraised with reference to the experience of the few countries where this has been attempted.

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This is more difficult to show because colonial policy, or the mere introduction of colonial concepts of law, may be used to influence the evolution of land tenure systems, and vice versa.

The Emergence of Demands for Participation in the Development Process

The development problems and aspirations of the less developed countries first received serious consideration and attention in the early 1950s. The objectives for development policy, and the most appropriate ways to pursue them, established at that time have provided the rationale for most development efforts right up to the present time. Many African countries became independent in the late 1950s and early 1960s. The change in status led to increased emphasis and urgency for the achievement of development objectives, to be achieved through greater commitment to development policies similar to those already established prior to independence.

In the early 1950s it was not anticipated that the increasingly impatient demands of growing numbers of people in the less developed countries for opportunities to participate in the development process might endanger both the development efforts and the stability of these countries. These problems have emerged in the last twenty years in many African countries. From Lagos, Nigeria, to Addis Ababa, Ethiopia and Nairobi, Kenya, there are masses of people queuing up for an opportunity to enter into wage employment in the developing sectors. Many of these masses are prepared to risk their minimal secure opportunity to subsist off the land by migrating to urban areas where most of the new wage opportunities occur. Problems of increasing participation, especially of providing sufficient attractive employment for those who actively demand it, have become a major preoccupation of development social scientists and policy makers in many, if not most, less developed countries.

For the purposes of finding ways these problems might be handled, it is appropriate to lay out how and why the problems emerged, and why

the problems were not anticipated when the basic tenets of development policy were established in the 1950s.

Attention was turned to the development problems of the less developed countries as a sequel to the successes of reconstructing Europe following World War II. The redeployment of resources (especially capital) by the United States for the reconstruction of Europe under the Marshall Plan had performed near miracles in getting the growth process reestablished in Europe, and had also incorporated millions of destitute people into this process. The mass unemployment and poverty that accompanied a painful and slow reconstruction process after the 1914-18 World War were largely avoided after World War II. Resources poured into Europe for growth, alleviating many equity problems. The benefits from growth trickled down and were spread out among the disadvantaged masses. By extension, a similar process was anticipated in the less developed countries. Emphasis on growth would be compatible with resolving the equity issues.

What had been forgotten was that, although unemployed and poor, the European masses had already been active participants in the economies and nation-states of which they were citizens. They had the skills; they knew how to get a job in a national economy if one was available; and they knew how to protect their rights and properties against the economically powerful. The reconstruction needed was largely in the form of physical infrastructure--social and institutional infrastructure suitable for a developed economy was preexistent.

Only when the failure of growth to resolve the equity problems of LDCs became apparent was there a full realization of the difference in tasks between physically reconstructing Europe, and socially and

institutionally constructing a nation-state economy from one of the less developed countries of the world.

The second reason that problems created by demands to participate in the development process and the benefits of it were not anticipated is that in the developed countries gross inequities between those included as participants and those excluded persisted for generations and caused relatively few problems. In the context of the one or two decades it was (optimistically) expected to take for the benefits of growth to trickle down to most of the people in the less developed countries, it was assumed that the majority of people not included as participants in the development process would also be prepared to wait until an opportunity to participate was available. In the interim, some of the benefits of growth could be used to make their subsistence livelihoods less uncomfortable. When the time came, people could be provided incentives to cover the costs of transfer from the security of their subsistence livelihood to the opportunity to participate in the development process.

What was not anticipated was that the masses excluded from participant status would recognize that they had been left out and that it was desirable to be included. It has been the failure of growth in GNP to provide significantly increased participation in the development process combined with this recognition and the subsequent unwillingness to wait that has caused problems. It has led to demands for participation in the development process, mainly conceived of as the right to regular wage employment in urban and commercial sectors, with wages guaranteed in some way.

Economic historians writing about the nineteenth-century industrial development of Europe have long recognized that the absorption of laborers, although dramatic in consequences for production, took a long time. During this time, entrepreneurs induced labor into the modern sector at wages and

in conditions incommensurate with the marginal productivity of labor. Paradoxically, there was both exploitation and opportunity for the masses included into the modern sector.

The economists of the 1950s recognized that economic dualism existed in nineteenth-century Europe and posited it as a possible basis of twentieth-century growth in the less developed countries. W. A. Lewis¹⁰ suggested that economic growth could be stimulated by "capitalists" (users of reproducible capital who are willing to reinvest their profits in further economic expansion) hiring labor at wage rates equal to average productivity in the sector where such capital was not used (the subsistence sector). Such a wage would be below the marginal productivity of labor and would enable the capitalist to accrue greater profits for reinvestment and an even faster rate of capital formation and labor absorption. This was precisely the mixture of labor opportunity and exploitation that occurred in the nineteenth-century industrial revolution in Europe. Just like his classical predecessors (of whose work he was explicitly and cogently aware), Lewis argued that an economic incentive above the opportunity costs forgone may be necessary to persuade labor to transfer from subsistence underemployment (primarily agricultural) to capitalist-sector employment.

It is the presumption that an incentive would be necessary to persuade people to transfer into capitalist-sector employment that has been brought into question during the last two decades in the less developed countries.¹¹

¹⁰W.A.Lewis, "Economic Development with Unlimited Supplies of Labor," reprinted in A.H.Agarwala and S.P.Singh, eds., The Economics of Underdevelopment (Oxford University Press, New York, 1963), pp. 400-449.

¹¹The work of M.P.Todaro in analyzing the urban unemployment problem in Kenya suggests the serious consequences of continued urban-rural wage differentials even if the probability of urban wage employment is low. See M.P. Todaro, "A Model of Labor Migration and Urban Unemployment in Less Developed Countries," in American Economic Review, LIX, No. 1 (March 1969), pp. 138-48. The line of reasoning in this paper is not contrary to that of Todaro, but places more emphasis on the prospective erosion of subsistence opportunities and present paucity of opportunities to participate in the development process while residing in the rural areas to explain the persistence of rural-urban migration when migrants face semi-permanent underemployment or unemployment in the urban areas.

The problem has rather been how to persuade people not to abandon their subsistence livelihoods. One reason for this is that the advantages of being included in a developed sector have been demonstrated to the excluded people of the less developed countries through the very success of developed countries. Another reason is that less developed country entrepreneurs and governments have found it difficult, for political, social, and humanitarian reasons, to permit the harsh conditions and exploitation of their fellow men which occurred in nineteenth-century European development.¹² The higher than necessary wage rates enhance the attraction of developed sector employment opportunities. A third reason is that, unlike nineteenth-century Europe where the livelihood of the excluded was improving modestly as a result of both improved agricultural technology and (eventually) reducing pressures on land resources, agricultural technological improvements and increasing rural incomes in the subsistence sector of less developed countries have been few and far between.

The recognition of the benefits of inclusion in the development process by the people and their unwillingness to accept prolonged exclusion was bound to create development policy problems. What made the problem so acute was the unprecedented and unanticipated rates of population growth experienced by the less developed countries. In the late 1940s and early 1950s, demographers were projecting growth rates of population on the order of 1 to 1-1/2 percent per annum for most less developed

¹² There are some notable exceptions where exploitation has been severe, e.g., the exploitation of labor in plantations, mining enterprises, and domestic servitude in Portuguese Africa and South Africa. Harsh conditions are more widespread, because their mitigation is more difficult to accomplish where the resource base of a country is small in relation to its (growing) population.

countries. These growth rates of population were incorporated into the models of development that economists used. Actual growth rates of population have increased to 2-1/2 to 3 percent per annum. (See Table 1 for average annual population growth rates in selected African countries.)

Absorbing all those who demand participant status in the development process is a difficult task. When the population doubles in less than thirty years, the task becomes formidable. Few African countries have managed to increase agricultural production at rates significantly greater than the rate of growth of population (see Table 1). Although it does not substantiate the fact, this is indicative of the general lack of success in the creation of opportunities to participate in the development process through agricultural enterprise. It is not surprising that many African peoples have come to consider development to be an urban and industrial phenomenon. Participation in the development process is perceived to be mainly a question of non-agricultural wage employment. This is the impasse because, as Folke Doving has shown in his historical analysis of the changing roles of the agricultural sector in the occupational structure of the developed countries,¹³ the absolute number of the working population engaged in agriculture or depending upon it is likely to increase during the early stages of the development process. The smaller the initial proportion of total population engaged in non-agricultural occupations, the greater the rate of expansion needed, and the more difficult is the task of absorbing all the increases in population into non-agricultural job opportunities.

¹³Folke Doving, "The Share of Agriculture in a Growing Population," Monthly Bulletin of Agricultural Economics and Statistics, Vol. 8 (F.A.O., Rome, 1959), pp. 1-11.

Table 1. Agricultural, Population, and Production Data for Selected African Countries

| Country | Increase in Agricultural Production Percent per Year | | Increase in Population Percent per Year | | Population in Agriculture (000) | | | Population in Agriculture as Percent of Total | | |
|---------------|---|---------|--|---------|------------------------------------|-------------------|-------|--|-----------------|------|
| | 1952-4 | 1959-61 | 1952-4 | 1959-61 | 1950 | 1960 | 1965 | 1950 | 1960 | 1965 |
| | 1959-61 | 1967-9 | 1959-61 | 1967-9 | | | | | | |
| Cameroon | 3.2 | 5.1 | 1.8 | 2.1 | | | 4368 | | | 84 |
| Congo (Zaire) | -0.1 | -0.3 | 2.3 | 2.1 | 9084 ¹ | | 10945 | 84 ¹ | | 70 |
| Ethiopia | 2.9 | 2.9 | 1.7 | 1.9 | 18900 ² | | 20120 | | 90 ² | 89 |
| Ghana | 5.6 | 2.6 | 2.7 | 2.7 | | 3944 | 4642 | | 58 | 60 |
| Ivory Coast | 5.7 | 6.4 | 3.2 | 3.4 | | | 3105 | | | 81 |
| Kenya | 4.5 | 3.1 | 3.0 | 2.9 | | | 7821 | | | 84 |
| Malawi | 4.4 | 4.3 | 2.3 | 2.6 | 2078 ³ | 2765 ⁴ | 3158 | 92 ³ | 79 ⁴ | 80 |
| Nigeria | 3.4 | 0.4 | 3.0 | 3.0 | | | 46196 | | | 79 |
| Rhodesia | 6.4 | 2.1 | 3.3 | 3.2 | | | 3195 | | | 75 |
| Senegal | 5.7 | 3.0 | 2.3 | 2.1 | | | 2605 | | | 75 |
| Uganda | 2.7 | 4.0 | 2.5 | 2.5 | | 5829 ⁵ | 6870 | | 87 ³ | 91 |

¹1947

²1962

³1949

⁴1961

⁵1959

Source: Selected data from Annex Table 9A, Africa: Basic Data on National Agriculture, and Annex Table 10A, Average Annual Growth of Agricultural Production and Population in Developing Countries, in F.A.O., The State of Food and Agriculture, 1970 (Rome, 1970).

In most of the less developed countries of Africa there was little development of an industrial base prior to independence. Consequently, only a small proportion of the working population is engaged in non-agricultural occupations and most people still depend on agricultural livelihoods (70-80 percent of the total population depend on agriculture in many African countries--see Table 1). The relatively small non-agricultural base, in conjunction with rates of population growth of 2-1/2 - 3 percent now sustained for over a decade, means that the number of non-agricultural job opportunities would have to expand at the unattainable rate of 9-15 percent per annum if the number who must rely on an agricultural livelihood or become unemployed is not to increase. Even if there is immediate success in reducing the rate of population increase this will not be reflected for another fifteen years in the number of new entrants to the labor force looking for job opportunities. In Table 2 estimates of rates of increase in population and entrants to the labor force, along with estimates of the attainable rates of expansion of non-agricultural job opportunities for Nigeria, are used to calculate maximum agricultural population size in relation to 1970 agricultural population. Even with development policy that attempts to maximize the expansion rate of non-agricultural job opportunities, the agricultural population may well increase into the next century, by which time it would be anything from 45 to 200 or more percent larger than in 1970.

Even if the projected additions to the working population who will not be able to find opportunities to participate in the development process in industrial and other non-agricultural occupations are prepared to resort to their residual opportunities for subsistence agriculture

Table 2. Projection of Extreme Values for Agricultural Population in Nigeria

This table assumes that 70 percent of the total population was engaged in agricultural occupations or dependent upon it in 1970.

| r (%) | z (%) | Year When Agricultural Population Would Reach a Maximum | Size of Agricultural Population Compared with 1970 Size (1970=1.00) |
|-------|-------|---|---|
| 2.3 | 4 | 2009 | 2.43 |
| | 5 | 1986 | 1.44 |
| | 6 | 1977 | 1.17 |
| 2.5 | 4 | 2020 | 3.44 |
| | 5 | 1991 | 1.68 |
| | 6 | 1980 | 1.28 |
| 3.0 | 4 | 2067 | 17.59 |
| | 5 | 2007 | 2.98 |
| | 6 | 1988 | 1.70 |

r is annual percentage rate of growth of working population.

z is annual percentage rate of growth of non-agricultural job opportunities.

The values of r selected for analysis are the estimates of present labor force rates of increase (2.3 and 2.5 percent per annum) and of population increase (3 percent per annum) assumed in Federal Republic of Nigeria, Second National Development Plan, 1970-74 (Lagos, 1970).

Values for z selected are from two sources. W. A. Lewis, Reflections on Nigeria's Economic Growth, O.E.C.D. (Paris, 1965), estimates the maximum rate of growth of non-agricultural employment in Nigeria to be 5 percent per annum. In his analysis, C. R. Frank, "Industrialization and Employment Generation in Nigeria," Nigerian Journal of Economic and Social Studies, Vol. 9, No. 3 (November 1967), pp. 277-297, concludes that, although a major emphasis on non-agricultural job creation might enable a growth rate of non-agricultural employment of 6 percent per annum, 4 percent per annum was a more likely maximum sustainable growth rate.

Table 2 was extracted from D. J. King, "Agricultural Labour Force: Tables for Analysis of Sectoral Transformation over Time and their Use," Proceedings of Seminar on Population Problems and Policy in Nigeria (Ife, Nigeria, 1971). This paper includes the method of derivation of the figures and further implications of the analysis.

livelihoods (usually theirs by right of birth into a land holding group), there would most likely be increasing scarcity of land and other resources. In several countries or regions of countries in Africa areas of land suitable for subsistence cultivation are being subdivided to ensure that all who have a claim on the land can subsist on it if they so wish.¹⁴ This involves deterioration of the basic subsistence opportunity and further encourages young men to leave the rural areas. There has never been much to lose when a young person relinquished his rights to a subsistence living in search of urban employment. Yet even this right is subject to erosion as a result of population pressure.

The only possibility of avoiding the inevitable frustration of increasing numbers of people who seek the advantages of participation in the development process, but for whom there are no prospective opportunities in non-agricultural occupations, is the transformation of agrarian institutional arrangements, including the land tenure systems. The failure to create modern, investment-oriented agricultural sectors based on the participation of people in the rural subsistence economies who now use traditional systems of farming has been the most critical element in development efforts. The importance of agricultural development for overall growth has been recognized because of the need for balanced sectoral production if adverse sectoral terms of trade and structural inflation are to be avoided. Hence, the primary emphasis of agricultural development policy has been on attempts to increase production either by

¹⁴This is happening in the Ibo areas of Nigeria (primarily the East Central State). Don Thieler, a graduate student from the University of Wisconsin, working in Lesotho has reported that land subdivision to provide subsistence opportunities is occurring in that country.

increasing the scale of production and/or research on agricultural innovations--seeds, fertilizer, pesticides, and mechanical equipment.

There has been some success in developing technology and improving techniques of production for agricultural export commodities. Improvements in coffee, rubber, and oil palm seed varieties adapted for conditions under which they are grown, and improved fungal and pest control of cocoa have come from long-standing research on agricultural export commodities. There was definite colonial interest in these crops, and as most are grown as single crops (in contrast to the multi-cropping of many food crops in Africa), improvements in their productivity are less difficult to achieve than for food crops. The success of increasing the volume in production of some of the export crops has to be tempered by the deteriorating terms of trade for them and bleak future international market prospects for their expansion.

Less success has been achieved in improving the productivity of staple food crops in Africa. There have been some recent advances in agriculture but, as yet, few accomplishments for most of the basic staple food crops, particularly the tuber root crops--yams and cassava (manioc).

Much of the financing for agricultural development has been spent on relatively large-scale production schemes, many of which have been disappointments. Some have been major, expensive failures--notably the groundnut scheme that was launched in the late 1940s in Tanzania, the Mokwa settlement scheme in Nigeria in the early 1950s, and Nkrumah's state farms conceived in the early 1960s. Emphasis on rural agricultural development schemes during both colonial and post-independence eras is indicative of the pervasive conviction held by many African and colonial administrators

and academics that the traditional African subsistence farmer and his small holding cannot be the basis of a modern agriculture. Agricultural development schemes have been designed as replacements for traditional agriculture.

More serious than the actual failure of many large-scale schemes-- be they private or public plantations, estates, or ranches--for increasing agricultural production is the production emphasis they have given to agricultural development policy, while largely ignoring the need to tackle the problems of increasing participation in the rural sector. The failure has not been merely a misplaced emphasis. The very allocation of funds to production schemes that replace traditional agriculture is indicative of the evident difficulties of transforming traditional agriculture into a modern, investment-oriented agriculture in such a way that increasing numbers of rural people have opportunities to participate in the development process in the rural areas.

Development Perspectives of Land Tenure Systems in Africa

To demonstrate that the necessary transformation of existing systems of agriculture into modern systems supporting wider participation in development will require the use of the powers of the state to modify land tenure systems and other institutional arrangements (i.e., to instigate land reform and other agrarian reform programs), it is necessary to show that traditional land tenure systems in Africa do not support sufficient opportunities to participate in the agricultural development process, and are unlikely to do so as they evolve in response to other changes in the economy and society.

Since proposals for land reform should be appraised in relation to the customary working rules constituting the land tenure system to be modified, and from the perspective of the people who would be affected by land reform, it is difficult to specify what would be the desirable features of a land reform. In the context of this paper, it is also difficult to outline the general features of African land tenure systems which constrain increased participation of rural people in the development process without resorting to concepts and ideas of "land" and "tenure" that are foreign to the conceptions of African rural peoples. As Paul Bohannon comments:

Thinking about land has been and remains largely ethnocentric. Although many investigators have been meticulously careful in pointing out that one must not use European concepts like 'leasehold' or 'fee simple' in describing an African situation, rarely has anyone gone so far as to ask what we mean by the terms 'land', 'tenure', and 'rights'. The notion of land tenure may have distorted as much as it has clarified.¹⁵

¹⁵Paul Bohannon, "'Land', 'Tenure' and Land Tenure" in African Agrarian Systems, ed., D. Biebiuyck (International African Institute and Oxford University Press, London, 1963), p. 101.

These reservations as to the efficacy of trying to generalize from various African land tenure systems have to be borne in mind in considering the rest of this paper.

Features of indigenous¹⁶ African land tenure systems that inhibit participation in agricultural development. The basic feature of most, if not all, indigenous African land tenure systems is the mutual interdependence of rights in the same land by the individual user of the land and community or other group in which the individual user has some identifiable status. To the extent that all individual rights to use land are sanctioned and protected by the community, and in so far as all land that has not been used or has been abandoned is claimed by the community, the land tenure systems are rightly considered to be "communal." However, it must be remembered that continued rights to use land are held by individuals. Individual use-rights to land are established by initial clearance and use of the land. Only where a community or other group is engaged in pastoral activities are rights to use land (i.e., to graze cattle) shared communally. These individual use-rights are inheritable. They remain with the initial user of the land and his heirs until the land is abandoned. If abandoned, the residual interest of the community in the land is reasserted and the land reverts back to the community to be held until someone with recognized status in the community is granted individual use-rights.

¹⁶The systems of land tenure are described as "indigenous" to distinguish them from systems and conceptions of land tenure introduced as the result of colonial settlement and/or colonial attempts to administer land matters using European concepts.

Neither the community nor the individual holder of use-rights in land by virtue of status in the community normally has the right to alienate land to other persons or communities. The inalienability of land protects community or group members' rights to use land by virtue of mere membership, but inalienability of land inhibits individuals, extended families, and even entire communities from participation in the development process because inalienability constrains individual investment, innovation, and entrepreneurial activity in agriculture, and the rationalization of land use to maximize such activity.

The right to alienate land to a person outside of the land-holding group (be it tribe, corporate descent group,¹⁷ extended family or sub-lineage) is prohibited, or only permitted with the consent of a head or group of elders of such groups empowered to act on behalf of the group. Hence, in many African countries there is no full-fledged market in land or in rights to use land, the absence of which prevents both the alienation of group land to strangers and the reallocation of land to its most productive uses. With no market in land or land-use rights there is no assurance that the (potentially) best land will be used by those who can realize its potential productivity and who would thus be willing to purchase it at the premium price it would command.

¹⁷It is difficult to find a suitable and meaningful expression for the group that holds the reversionary rights in land, and the duties to allocate and defend rights to use land according to the customs and customary working rules of the group. P. C. Lloyd, Yoruba Land Law (Oxford Univ. Press, Ibadan, Nigeria, 1962), argues that corporate descent group is the most meaningful and least misleading term in most cases. It implies that there is some group that is identifiable (i.e., it is corporate) but not necessarily on any other basis than their common interest in the group (cf., community, tribe, clan) and that membership in the group is determined by right of birth into the group (i.e., it is a descent group). The term "group" in this paper should be construed in terms of corporate descent group.

The inalienability of land inhibits capital formation in agriculture. In a rural economy where the principal economic activity involves man using his labor on the soil, physical capital stock is likely to be small. Incomes are small, savings negligible, and productive investment is minimal unless the farmer can capitalize his existing potential assets. For the many African farmers who farm in arable areas the major potential asset is land (in pastoral areas cattle may also be a potential or actual asset). For land to become an actual asset, it would have to be both alienable and negotiable. What bank will grant a development loan on the basis of a resource that cannot be alienated to the bank or sold to someone else so that the bank can liquidate its secured asset in cases of default? The inalienability of land does protect the African farmer from the loss of his rights in land as a result of indebtedness. Even where the fruits and produce from land are pledged as interest on a loan from a money lender (this is common in West Africa), the rights of the pledger and his family and heirs to redeem the pledge remain intact even after generations have passed (the situation in Sierra Leone may be an exception).¹⁸ Furthermore, the pledgee is unlikely to press any claim to use or dispose as he chooses of land involved in the pledge. Such a claim would be tantamount to allocation of group land for use by a stranger (i.e., someone outside of the land-holding group) or alienation of the land from the group. Allocation

¹⁸There is some indication that pledging of land is becoming the means whereby land is alienated outside of the corporate descent group in some areas of Sierra Leone. See, Richard L. Barrows, "Individualized Land Tenure and African Agricultural Development," LTC Newsletter, no. 39, Land Tenure Center, University of Wisconsin, Madison, Jan.-March, 1973, pp. 12-15.

of land for use by strangers is subject to the consent and control of the group, and alienation of land to them would be prohibited.

In areas where land is more suitable for pastoral activities the individual member of the community may have rights to use a piece of land for growing some of his subsistence needs if the community is not continually nomadic, but rights to graze are likely to be shared by all. The cattle are individually owned. An individual's security is directly related to the number of cattle he owns. With communal rights to graze, there are few, if any, incentives for an individual to limit herd size in the interest of protecting or conserving carrying capacity of the grazing land.

Succession and customs vary considerably among the various African tribes and nations. As already noted, rights to use land are usually inherited in accordance with the general succession rules followed. Descent claims may follow matrilineal, patrilineal, or cognative lines. However, there are few African examples of primogeniture or other arrangements whereby the (landed) estate would be reserved for a single heir selected on the basis of his (or her) status or powers among his (or her) siblings. The only major exception to this would appear to be in Iboland where land is inherited by the first son or the eldest male sibling with an interest in farming. Even in this case, the inheritor is responsible for providing his siblings with a livelihood, even of providing them with land to farm.¹⁹

¹⁹See pp. 41-2 especially of W. P. Huth, "Traditional Institutions and Land Tenure as related to Agricultural Development among the Ibo of Eastern Nigeria," Research Paper no. 36, Land Tenure Center, University of Wisconsin, 1969.

Far more typically, where rights to use particular pieces of land are inherited along matrilineal or patrilineal lines, there is equal division between each of the sons/siblings, or equal parts to each wife with sons/siblings and subsequent equal division among these sons/siblings. Where cognative descent claims are recognized, actual division among claimants is likely to be far more fluid since the number of potential claimants is likely to increase geometrically with each successive generation back that ancestry is claimed.

In general, if land is inheritable and does not revert back to the older corporate descent group for redistribution, then the rights are divided so that all descendants of the deceased are provided the basis for subsistence. If a descendant (e.g., a wife) does not share directly in the allocation of land, then one or more of those who do (e.g., her sons) will have the specific obligation to ensure that his or her subsistence needs are cared for.

In creating security of at least a subsistence opportunity from the land for everyone, the possibility of one or more descendants consolidating sufficient land for agricultural investment and development purposes is limited. Even if co-owners can be persuaded to give up their land to those who intend to farm, there is little likelihood that both residual claims to the land itself and income derived from it at a later stage, can be extinguished. The inheritor faces either the insecurity of tenure of a later claim to share in the use of land or the obligation to provide for an extended family from the gains of his enterprise.

Where lineage is recognized both patrilineally and matrilineally, the number of interested claimants may well be related to the extent of

what is to be claimed. There is no point in pursuing a small claim if there are other claims on the basis of other branches of the family tree that might be pursued, particularly since pursuit of claims involves both time and energy in terms of participation in lineage affairs. Hence, excessive fragmentation of land holdings is less likely to occur in comparison with situations where siblings have claims on a single lineage. However, insecurity of tenure may be increased since the extended family may well become co-extensive with the corporate descent group and thus claims to a share in individually inherited land for subsistence purpose may come from any member of the corporate descent group. This seems to be quite a problem in Northern Ethiopia where demands to use land that are based on genealogical relationships may be recognized even if obscured by generations and complex sibling ties.²⁰

There are few countries or even regions in Africa where there is so general a shortage of cultivable land that the right of everyone to a subsistence livelihood based on the right to use land has been eroded. However, there are many land-holding corporate descent groups who have insufficient land to meet the subsistence needs of their particular members, while other such groups have cultivable but uncultivated land that has not been used at all or has been idle for long periods of time.

Most African land-holding corporate descent groups do permit allocation of land for use by "strangers"--where strangers are anyone

²⁰See Alemseged Tesfai, "Communal Land Ownership in Northern Ethiopia and its Implications for Government Development Policies" (forthcoming Land Tenure Center Paper). This paper indicates that in Northern Ethiopia both excessive fragmentation of holdings and insecurity of holding resulting from recognition of claims based on distant genealogical ties are evident.

participating in the economic (and/or social) activities of a descent group in which they have no claim or status by right of birth. In fact, the accommodation of strangers enhances the power and prestige of the group. It is a common practice to permit the heirs of strangers to inherit rights to the land and become ipso facto new members of the corporate descent group. However, at least the initial settler--"stranger"--is usually constrained in his use of land. He has to recognize that the land is indeed that of the grantee descent group. This is done by the payment of a tribute to the descent group. If he proves to be socially unacceptable, even unacceptable by his very economic success, he can be asked to leave after he has harvested his current crops or immediately if compensation for his current crops is paid. In order to prevent a stranger from being able to retain status in a community on the basis of land use of a long-standing nature, strangers may be constrained from growing permanent crops (e.g., Nigeria--cocoa). A stranger may also be limited in the amount of commercial cropping he can do since the granting group may believe (correctly) that compensation to a stranger would be prohibitive. Likewise, stranger participation in land improvement schemes, e.g., irrigation, may be prohibited.

In general, there are ways that the needs of strangers for land to use can be accommodated, but the process of acceptance and constraints to full status within a corporate descent group severely inhibits the major redistribution of rights to use land that would be necessary to rationalize land use on a national scale. Even more important is that the opportunity for strangers is primarily a subsistence opportunity. Agricultural investment opportunities and thus agricultural development have to be based on the particular members of corporate descent groups and their right to use the land of their group.

In summary, traditional land tenure systems in Africa do protect the interest of corporate descent group members to a subsistence livelihood by secure rights to use the land. In order to protect the group members' rights to this subsistence livelihood from group land, it is usually necessary to constrain the voluntary or involuntary alienation of land to strangers or stranger groups. In doing so, opportunities of entrepreneurial, innovative, and investment-oriented agricultural enterprise by the group are inhibited. To transform the system of institutional arrangements so that farmers or groups of farmers can participate in the agricultural development process of the nation-state, either the broad purposes and interests of the corporate group with respect to land will have to be accommodated to the wider development purposes of the nation-state, or the residual powers of the group will have to be extinguished and the security of opportunity for the individual user of land provided through the powers of the government in some other manner (it would have to be in some respects comparable to the present protection for such a change to be acceptable).

It is very difficult to formulate rational agricultural development policies for a nation-state when the institutional arrangements for use of land are founded on locally based corporate descent groups whose historical focus has been, and still is, the security of all members to a subsistence living through use of the land of the group.

The effects of pressures for change on indigenous African land tenure systems. Indigenous land tenure systems in Africa have come under pressure for change from three sources:

- (i) the effects of increasing agricultural population;
- (ii) the impact of European settlement and philosophy of administration during the colonial period;
- (iii) the expansion of agricultural markets and investment opportunities.

The effects of each of these factors vary from country to country, both in relation to their particular significance, and also according to the nature of the system of agriculture and the historical accidents that make up the past heritage, current situation, and future possibilities in each country. However, in this paper the impact of each source of pressure for change will be considered separately with a view to determining whether the changes in land tenure systems that result support or constrain opportunities for increased participation of rural people in the agricultural development process.

(i) The Effects of Increasing Agricultural Population on Indigenous Land Tenure Systems

As agricultural population increases, land is used more intensively. Such increased intensity of land use has to be reflected in the land tenure arrangements. When land is plentiful it can be used extensively, until soil fertility is depleted. Then the village or group would move in entirety to start afresh on a new site. With such a shifting cultivation system of farming, where a group might never return, or return only after a generation or two, there could be little possibility or reason for a land-holding group to claim, and try to protect its rights to, a particular area of land. Likewise, individual or family claims to use a particular piece of land and derive benefits from it could only have transitory significance, i.e., during the period that land has been prepared and/or crops are in the ground but not harvested.

Such shifting cultivation was once prevalent throughout the savannah zones of Africa and anywhere that clearing of land is not a major undertaking (as it is in the forest zones). True shifting cultivation practices are now found only in areas suitable for grazing where semi-nomadic peoples (e.g., the Masai of Kenya and Tanzania) move with their cattle but remain in one place long enough to grow a few crops for their own consumption.

Even in pre-colonial periods, shifting cultivation had been replaced in many areas with some form of recurrent cultivation as a way of meeting the need that land be more productive and thus support more people. Under recurrent cultivation land that is depleted is still abandoned and allowed to revert to bush or a state of natural vegetation; however, the land-holding group does not migrate but merely clears and farms some other areas of land accessible from the same village or settlement. Even though recurrent cultivation may involve leaving land fallow for many years until the bush fallow land is only distinguishable from uncleared land by a trained eye, it usually constitutes an increased intensity of land use because of the limitation of accessibility of fresh land from the existing village or settlement.

In time, with increased population and demand to use land, the land is likely to be used more intensively by reducing the period that land lies fallow to recuperate its fertility naturally, right up to the point where land lies fallow perhaps one year out of two or three--i.e., a rotational system of fallowing.²¹

²¹Ester Boserup, The Conditions of Agricultural Growth (Aldine Press, Chicago, 1965), describes the ways in which increased agricultural population leads to changes in the system, and increased intensity, of land use in situations relevant to tropical African conditions. She also relates systems of land use to the features of land tenure systems that support them.

The existence of a recurrent cultivation farming system based on settlement by a group in a specific location almost requires that the claims of that group to use the land, let it lie fallow, and then come back to use it again, be defended and recognized against competing claims of other land using groups. As land is used more intensively, or rather more frequently, it becomes both more important and easier on the grounds of recent use to substantiate the rights of a community to continued use of particular lands.

Just as descent group rights gain significance as permanent settlement and recurrent cultivation become more important, so may the rights of an individual or family within the descent group become more important as the period that land lies fallow declines. If land reverts completely to its original state before it is used again, and especially if land clearing is a communal task and obligation, an individual has little incentive to try to claim a particular piece of land for recurrent cultivation by himself and his heirs. As land returns to cultivation more frequently, so will the previous uses or abuses of land be reflected in the productivity of land upon renewed use. Thus it becomes important that an individual can claim a particular piece of land for his exclusive use. In fact, the right of a man to the fruits of his labor is generally recognized in most African indigenous land tenure systems. A man and his heirs will return to the same pieces of land which have been claimed by rights of initial clearing. The land will be theirs as long as it continues to be used. If it is abandoned, it will revert to the land-holding group from which came the original grant of land. Land that is lying fallow is not considered to be abandoned.

As land is used more intensively increasing significance attaches to the rights and obligations of both the land-holding groups to the control and defense of lands against others, and the rights of group members to claim use of land by virtue of birth. A corollary of the increased significance and value of usufructuary rights to land by virtue of birth is a hardening of attitudes towards, and terms under which, "strangers" acquire usufructuary rights to land.

If a land-holding group does not claim a specific piece of land (as under shifting cultivation), or there is much land that is claimed by the

group but will not be used in the foreseeable future, then strangers are likely to be granted rights to use land as long as they agree to recognize the status of the granting community and conform to its way of life. At this stage, a stranger represents an increase in the corporate strength and authority of the group in defending group claims to its crops and land.

If most or all of the land under the corporate control of a land-holding descent group is used or claimed by members of the group, there is less likelihood that a stranger will be granted rights to use land. At this stage, the rights of one group in relation to the claims of another are likely to be well substantiated, and thus little benefited by increased numbers in the group. Also, there is unlikely to be much land that can indeed be allocated to strangers. Officials with the power to allocate, who are also regular members of the group, are likely to foresee the future needs of their own family and other descendants of members in the group. Hence, increased difficulty in acquiring land and restrictions on its use to prevent permanent claims to use (e.g., restrictions to use for annual food crops, or use for a specific limited period) are experienced by strangers as they approach groups with increased population in relation to land available for use.

Rationalization of land use between corporate descent groups by the assimilation and adoption of strangers into groups that have land to spare becomes more difficult to sustain as population increases and land use becomes more intensive.

In summary, as agricultural population increases, intensity of land use increases. Increased intensity of land use is based on permanent settlement and claims by corporate descent groups to particular areas of

land. The extent and authority of the claims of the land-holding group to land for the exclusive use by members of the group take on increasing significance in the face of growing agricultural population. Members of the land-holding group rely on the authoritative power of the group to protect their right to use land to the exclusion of strangers who might also hope to establish use-rights. As the area of group land that has not been claimed by individual members through initial clearance and use decreases, the importance of the authoritative powers of the group for the protection of the right to a subsistence livelihood increases further. This is reflected in a hardening of attitudes towards use of land by strangers. Once most or all of the land of the group has been allocated to individual users of the land, the importance of group authority and protection of the right to a subsistence livelihood by right of birth into the group is diminished. Individuals who have land to farm can support their claims to continued use directly by this use. New members of the group must look to inheritance of some share of family lands and not to the land-holding group in order to acquire rights to use land. Many of the restrictions on the alienation of group land designed to protect the rights of future group members to a share in the group land become redundant. The critical feature of the land tenure system then becomes how rights to use family land are allocated and inherited.

The problems of the exhaustion of group land and the subsequent erosion of the opportunity to a subsistence livelihood have been faced in few areas of Africa. This is fortunate because when this stage is reached it is exceedingly difficult to create opportunities for rural people to participate in the agricultural development process without at the same

time extinguishing the rights of others to use land that is the basis of their subsistence livelihood. As noted earlier, this is the situation that prevails in many South Asian and Southeast Asian countries. While there is still some unclaimed land available, there exists the potential for the transformation of the traditional land tenure system so that opportunities to participate in the agricultural development process exist side by side with agricultural subsistence opportunities.

The possibilities for such a transformation of agricultural opportunities will not last for long with the current rate of population growth and limited possibilities for the expansion of opportunities to participate in the development process of the non-agricultural sectors of the economy. The fact that young people are leaving the rural areas in search of industrial and commercial sector wage employment, often with the support and encouragement of their farming parents,²² is indicative of the fact that the likely erosion of agricultural subsistence opportunities in the near future has been anticipated.

(ii) The Consequences of Colonial Intervention and Administration

The history of European conquest and colonization of Africa is very complex. In the late nineteenth century just about every major European power was involved in the "Scramble for Africa." It is easier to enumerate those countries where there has been little or no significant European

²²The commitment of farmers and other rural people to the education of their children in many African countries is remarkable. Farmers will use windfall cash gains from sale of crops and even go into debt to pay for their childrens' education. However, if pressed to explain what they expect this investment in education to achieve for their children, the answer will frequently be of the form, "To give them an opportunity to get out of agriculture, so that their lives might be different from my own."

colonization (probably just Ethiopia and Liberia). It is impossible to consider the impact of all the different colonial powers on the land tenure systems of the countries colonized. Hence, in this paper, analysis is restricted to some comments as to the effect of British and French administrations on indigenous land tenure systems.

The consequences of colonization for the land tenure systems of various parts of Africa vary according to the different colonial power, its rationale for colonization, and its philosophy of colonial administration. There have been two major rationales for initial conquest with significantly different consequences for land tenure arrangements:

- (a) Colonization for purposes of colonial settlement. This occurred primarily in the cooler highlands of East Africa and temperate climates of Southern Africa. Even where settlement only followed initial failure to find exploitable mineral deposits, such settlement did involve the displacement of African peoples from some of their lands and the introduction of European concepts of land law and administration.
- (b) Colonization for purposes of stabilization and expansion of trade. Much of West Africa was considered unsuitable (largely for health reasons) for European settlement at the time that much of the African colonization occurred.

British administrative philosophy in its African colonies, both those of East and West Africa, was deeply influenced by the "indirect rule" philosophy of colonial administration articulated and put into practice by Lord Lugard.²³

²³ Lord Lugard was the first colonial governor of the Protectorate of Northern Nigeria. He articulated the indirect rule principle of his administration in Lord F. J. D. Lugard, The Dual Mandate in British Tropical Africa (W. Blackwood and Sons, London, 1922).

In West Africa, where conquest²⁴ and colonization was undertaken primarily for the purpose of stabilization of trade, the British saw few benefits in replacing preexistent internal administrative arrangements and considerable costs in terms of administrative and bureaucratic talent in trying to do so.

As long as indigenous populations responded to the metropolitan vent for surplus, stabilized political conditions, and provision of transportation infrastructure to evacuate export products, there was little reason to upset traditional or preexistent social and political arrangements. Sovereignty was claimed for the British crown but the judicial, executive, and administrative powers that would make such sovereignty operative were delegated to traditional authorities. For example, in both Northern Nigeria and Southern Nigeria, the customary rights in land were recognized, the rights of traditional rulers and delegates of such rights were reaffirmed and even strengthened by explicit British recognition of their often cloudy authority, and traditional judicial authority, philosophy, and procedures left untouched in matters concerning land, the family, and the community.²⁵

²⁴In the Gold Coast (now Ghana) the rights of sovereignty established by conquest (or its fiction) were never followed through because of a treaty agreement made with the Ashanti in 1844. This had the interesting consequence of making the British administration powerless in matters of land and thus unable to take on the task of defending customary land law and institutional arrangements as they did in Nigeria and elsewhere.

²⁵This worked reasonably well in Northern Nigeria and elsewhere where there were traditional authorities in whom authoritative power was customarily vested. It did not work so well in Southern Nigeria where chiefs and elders have roles as trustees and advisors rather than as sovereign authorities of the community. The creation of "Warrant Chiefs" in Iboland, who were given judicial authority by the British in matters of local government, was bitterly opposed because the powers of these chiefs were quite alien to Ibo customary procedures. In Iboland, there had been no single recognized judicial authority.

One consequence of the application of this indirect rule philosophy of administration was the reinforcement of the existing system of land tenure that resulted from the recognition and freezing of the systems of rights in land that existed at the time of colonization. At the time, this had the advantage of preventing the alienation of customary rights in land to non-native people. It has had the subsequent disadvantage of removing the initiative for the change in systems of land tenure from the nation-state and leaving this power with traditional authorities, where conceptions of development must, at least, be local. It will need the initiative and powers of government to modify land tenure systems so as to serve the needs of development of the nation-state. The independent governments of former British West Africa have found it difficult, and are often reluctant, to assert the powers of government over those of traditional local authorities in matters pertaining to land administration.

In British colonies of East and Southern Africa, where there was extensive European settlement, the indirect rule philosophy was applied only to the indigenous populations. The consequences have been very different because this philosophy was supplemented by a philosophy of "non-competing groups." In order to retain the attractiveness of opportunities for European settlement, the indigenous populations were not encouraged to take advantage of the new markets. In fact, they were discouraged from doing so by the colonial and trading company practices of allocating reserve areas for indigenous populations that were either not suitable for intensive cash crop production and/or were isolated from transportation facilities for evacuation of products. The limitation of opportunities of the indigenous population to become cash crop farmers provided the possibility

of a cheap and eager labor supply for European enterprises--both agricultural and mining.

Hence, although indigenous tenure systems and land administration arrangements were protected in the reserve areas, the expectation was that the indigenous population would not participate in the agricultural development process. The philosophy, or rather rationalization, behind this position was that indigenous populations could not compete, i.e., that the cultural and social organization and the aspirations of these peoples were such that they would not respond to economic incentives and technological opportunities inherent in a cash crop economy.²⁶

The difference between British West Africa and East Africa in the handling of indigenous land tenure systems is not merely that a lot of the best land was expropriated for settler use in East Africa. More important is that the indigenous land tenure systems were retained in West Africa with the assumption that the indigenous peoples could, and would, respond to agricultural development opportunities, whereas in East Africa they were retained with the assumption that the indigenous population was incapable of competing effectively with Europeans, and, therefore, the basis of subsistence opportunities should be retained and protected.

In practice, British colonial governments in both East and West Africa found it difficult to take the initiative to modify the land tenure systems for agricultural development purposes. The very existence of land reserved for colonial settlement, usually subject to British law and conceptions

²⁶ A good, if depressing, account of the rationalization of this position by successive colonial governments in Rhodesia is given in M. Yudelman, Africans on the Land (Harvard University Press, Cambridge, Mass., 1964).

of land tenure, in East Africa seems to have led to some changes in, or at least changes in conceptions of, indigenous land tenure systems. By the 1950s the Kikuyu of Kenya had already developed practices for the sale and purchase of land in order to help land consolidation. These practices were incorporated into the Swynnerton Plan²⁷ that included a recognition of individualized land tenure rights, where formerly the government had felt obliged to recognize the existing communal land tenure system.

In East Africa, the end of British colonial rule and the departure of many settlers provided further opportunity for the establishment of new systems of land tenure for purposes of agricultural development on the land that became vacant. The practice was to either convert the former estates into government-managed settlements or distribute the land on the basis of traditional egalitarian principles and need among indigenous groups (e.g., both these elements were included in the Million Acre Resettlement scheme in Kenya).

Most of the French colonies in Africa were in West Africa (Madagascar is the principal exception). As a result, there has been little French colonial settlement in Africa. As with the British, the aim of colonization was to stabilize and expand trade in primary commodities. French colonial administrative philosophy is often characterized as "direct rule," but this may be misleading as it has been used primarily to contrast the French colonial philosophy with British "indirect rule" philosophy in

²⁷Kenya, A Plan to Intensify the Development of African Agriculture in Kenya (Government Printer, Nairobi, 1955). Full details of the Plan and its consequences are to be found in B. K. Herz, Land Reform in Kenya, A.I.D. Spring Review of Land Reform, 2nd edition, Vol. IX (Washington, D.C., 1970).

West Africa. Just as was done in most of British Africa, the French recognized traditional administrative and executive authorities with respect to internal matters, including land administration. Traditional rights in land of the indigenous populations were affirmed, and alien settlement discouraged. The principal difference between British and French philosophy lay in the French imposition of juristic and administrative concepts, standards, and procedures on the indigenous systems. The French codified system of law does not have provision for incorporating customary arrangements of the people into the law. Hence, European concepts of "land," "title to land," and entailed "rights in land" were imposed on the customary concepts. It was thus inevitable that France had to become more directly involved in the administration of her colonies. The necessary reinterpretation of traditional concepts and the establishment of judicial and administrative institutions to implement them led France to deeper and more comprehensive involvement in her colonies. Even after independence, French West African countries at their administrative centers still appear to be European in a way that is not true of ex-British colonies.²⁸

Even though rights in land are frequently a little confused in former French colonies, one advantage of their using French concepts with respect to land is that it led to the emergence of public domain and private domain lands. Where customary land law is valid it is difficult for the state to assert its powers, but in the public and private domain areas,

²⁸ This may be because the French colonies have always been considered more of an extension of the metropolitan country than is the case of the British colonies. Even in the nineteenth century, it was possible for educated Africans to attain French citizenship.

subject to French law, it is possible for the state to assert its interests directly without having to confront traditional authorities on land matters. Whether this will prove to be a significant advantage in instigating land reform measures for the purpose of increasing participation of rural peoples in the development process remains to be seen.

In summary, the general impact of colonial intervention on indigenous land tenure systems of Africa has been minimal. In most independent African nations traditional egalitarian distribution of rights to use land of indigenous groups has remained intact, or has been sufficiently restored, to protect the rights of the existing populations to at least a subsistence livelihood by mixing their labor with the land. Colonial administrations did little, if anything, to modify the indigenous systems of tenure to make them more suitable for agricultural development, or the increased participation of rural people in the agricultural development process. In British Africa, the recognition of customary authorities with respect to indigenous land use may well have created extra difficulties for the assertion of the states' powers over land for purposes of promoting agricultural development.

(iii) The Effect of Market and Investment Opportunities in Agriculture on Land Tenure Arrangements

An argument that is frequently cited in opposition to the case for land reform in African countries is that whenever new market and investment opportunities for indigenous agricultural enterprises arise, then customary institutional arrangements and land tenure systems will be

modified so that farmers can take advantage of these opportunities.²⁹ Two issues have to be considered here: whether modifications of land tenure arrangements do evolve so that farmers can take advantage of new opportunities for agricultural enterprises, and if so, are the consequences desirable in the context of the need for increased participation in the agricultural development process?

In general, indigenous land tenure systems have been modified so that those farmers with rights to claim use of land can take advantage of new cash crop market opportunities. For members of land-holding groups which have land that has not been claimed and used for subsistence purposes, it only requires that extra land be allocated beyond that which would normally meet individual needs. An additional, more significant change in land tenure arrangements is needed if the cash crop to be planted is also a permanent crop. The market opportunities provided by permanent tree crops tend to reinforce the claim of the individual farmer who is using the land as opposed to the corporate descent group from whom he has secured the rights to use the land. First, the land does not periodically fall into non-use status every three or four years. While fallow land is typically regarded as occupied and not abandoned, land that lies fallow for longer than is strictly necessary for the soil to recoup its natural fertility is surely vulnerable to reclaim by the land-holding group, especially if other members of the group wish to assert their rights to use the land. Once established, tree crops, especially cocoa, require little

²⁹For a statement and defense of this position with respect to Nigeria, see Consortium for Study of Nigerian Rural Development, Strategies and Recommendations for Nigerian Rural Development, 1969-85, C.S.N.R.D. Report No. 33 (East Lansing, Mich., 1969), pp. 28-31.

care beyond periodic weeding for an individual to get some yield from the trees. Further, the trees themselves provide clear evidence for thirty years or more that the land has not been abandoned.

A more critical test of evolution of land tenure arrangements, so that farmers can take advantage of new market opportunities, is whether strangers can acquire land use rights to grow cash crops, and if so, under what conditions. There is no unequivocal answer to this, for the treatment of requests by strangers for land to grow cash crops differs greatly with the situation and the circumstances. At one extreme, some land-holding groups in Yorubaland of Western Nigeria restrict strangers, particularly if the strangers are not Yoruba, to growing food crops, thus preventing strangers from establishing long-term holds over the use of land. At the other extreme, in Ghana, early in the twentieth century, small family groups were able to migrate from their own lands (unsuitable for cocoa) and, as strangers, purchase from sub-paramount chiefs and others with control over land allocation sufficient land suitable for cocoa to cover the settlers' needs and capabilities to plant cocoa then, and to expand their holdings in the future.³⁰

Migrants from one part of Yorubaland to another have been an important element in the expansion of cocoa production in Western Nigeria.³¹ However, in this case the "stranger" cocoa farmers remain tenants-at-will

³⁰Polly Hill, Migrant Cocoa-Farmers of Southern Ghana: A Study in Rural Capitalism (Cambridge University Press, Cambridge, England, 1963).

³¹For an account of this migration and its significance for land tenure systems, see Sara Berry, "Migrant Farmers and Land Tenure in the Nigerian Cocoa Belt," Land Tenure Center Paper No. 79 (University of Wisconsin, Madison, 1972).

of the group that granted them the rights to use the land. The claims of strangers to continued use of the land are not in danger (it would cost the land owning group too much in compensation to extinguish the claims to the land by the strangers), but the tribute (ishakole) that strangers are asked to pay in recognition that the land used is not their own but that of the granting group is taking on the characteristics of rent. Rather than being a token amount or gift, the ishakole is increased to reflect the value of the crops grown on the land. Payment may even be in terms of physical amounts of the crops grown (e.g., one or two bags of cocoa), or their monetary equivalent. These payments are frequently adjustable according to a farmer's success and changing values of crops from year to year. The farmer is paying a "rent" in the sense that payment reflects current use-value of the land, but this rent does not give him the security that a fixed payment decided in advance, perhaps contractually, would provide. Land is still used by strangers by right of privilege from the land-holding group rather than by right of demand upon fulfillment of fixed contractual obligations. Furthermore, these privileges are still personal to the grantee. They cannot generally be transferred to another person or stranger. Only if what is to be charged as rent is specified, the legality of the contract is recognized by some authority, and the rights and duties of the parties to the agreement are sufficiently impersonal to permit transfer of them to third parties, could one legitimately speak of a market in usufructuary rights to land. However, the very transformation of tribute payments to reflect value of crops that can be grown on the land, and the occasional odd instances where customary courts do set limits to what can be reasonably demanded of

strangers in way of rent, suggest the beginnings of a formalized market in land.

It is apparent that some changes in land tenure arrangements do occur as a result of pressures for change so that at least some farmers can take advantage of new agricultural market opportunities. What is less certain is the desirability of these changes in customary land tenure systems. For example, whether it is desirable that there should be a market in land, i.e., that land should be alienable to individuals, depends on who has the means to buy land, what they are likely to do with the land, and what rights to use land might be extinguished by the alienation of rights in land to individuals on the basis of sale. Where the state has little or no authority over land matters, a market in land is likely to create a situation where the most powerful members of a land-holding group (powerful by right of income generated in agriculture, or perhaps in an urban business, or from a civil service position) will buy up whatever land the land-holding group is willing, or feels obliged, to sell to him. It is probable that, unless there is much unused land held by the group, such an alienation of land will adversely affect at least the subsistence opportunities of other group members. Those most likely to be affected are the young people who will join the potential claimants to land in the future, and those who are already in the potential land use claimants of the group but who have deferred claiming their rights while they look for a job in the urban areas. It may well be argued that most young people will be, or are, unwilling to claim their rights to a subsistence livelihood, and regard the loss of such rights as not serious. However, if there was a possibility of participating in the development process in

agriculture as a result of land reform or agrarian reform measures, then there might be less willingness to accept the loss of those rights to use land acquired by right of birth into a land-holding group.

The only possible way that most of the population can become participants in the development process is if opportunities to participate can be created in the agricultural sector. The task of transforming existing land tenure systems to support increased participation in the agricultural development process becomes more difficult if the land tenure system has already changed, so that a few landed people with large holdings may benefit, while many people have lost their right to use land and have become landless laborers. A laissez-faire attitude towards land tenure changes by African governments could, in time, well lead to the creation in African countries of inequities in land holding now thought to be typical of Latin America. This should not be allowed to happen, but it is always a possibility until the governments of African countries are prepared to assert their powers over land matters and to limit the use of power by individuals for private purposes not consistent with the public purpose of creating rights for all to participate in the development process of the nation-state.

The Case for Land Reform to Increase Participation in the Development
Process of African Countries

The case for land reform and agrarian reform to increase participation of the poor in the development process of African countries has been made. By itself, however, the case neither specifies what would constitute desirable features of land reform programs for particular African countries, nor does it directly permit the evaluation of current land reform programs and proposals. However, some of the principles as to the nature of "participation" and "development," and the ways in which transformation of institutional arrangements facilitated the creation of an agricultural commonwealths in presently developed countries (discussed at the beginning of the paper) may provide some insights as to what might be generally desirable features of land and other agrarian reform measures proposed for the purpose of increasing opportunities to participate in the agricultural development process:

- (1) As has been shown, participation in the development process of the nation-state of an individual or a group with a common purpose requires that the individual or group have both vested political and economic interests in the development purposes of the nation-state. Few land reform programs or proposals adopted in African countries have included a recognition of the need for political participation by right of citizenship as well as the need for economic participation by right to use land. The limited political powers and citizenship afforded to indigenous peoples in most African countries prior to independence made this a particular shortcoming

of colonial attempts to reform indigenous land tenure systems. The registration of individual titles to the "mailo" lands of the Buganda region of Uganda,³² and the recognition of individual titles to land that had reverted to the state as vacant lands in French West African countries³³ could not create the rights of citizenship for those who were privileged to receive these economic rights in land. Even where customary land tenure arrangements were followed as closely as possible, as in Rhodesia where an attempt was made, under the Native Land Husbandry Act of 1951,³⁴ to establish a market in land use-rights for the indigenous people based on the then current pattern of such rights, the inability of people to demand the full rights of citizenship compromised any possible success of the reform program in expanding the number of willing participants in the agricultural development process.

In those African countries where governments have encountered difficulty in reasserting the public interest and thus their authoritative powers over land, or where the governments are reluctant to challenge the customary local authoritative power over land issues, the creation of

³²C. K. Meek, Land Law and Custom in the Colonies (Oxford University Press, London, 1946), pp. 131-137.

³³René Demont, False Start in Africa, 2nd Revised Edition (Praeger, New York, 1969), pp. 125-131, includes a discussion of the implications of French encouragement of individual property ownership in her colonies.

³⁴Yudelman, Africans on the Land, pp. 115-131, is a discussion of the rationale, progress, and implications of the Native Land Husbandry Act up to 1963.

opportunities for political participation is still a serious problem. While the corporate descent group and the local customary authorities uphold and defend the right to use land for members of the group, the subsistence farmer can only look to citizenship in the group. The right to vote in national elections, if the farmer has it, does not constitute the foundation of citizenship in the nation-state. Tanzania is the one country where major attempts have been made to increase participation of people in rural development programs, both politically and economically. The "ujamaa vijijini" is not just a widespread rural development scheme based on the establishment of socialist cooperative (or collective) villages, but is an attempt to establish a self-reliant rural development process based on the willing economic and political participation of the people.³⁵ An elaborate structure of political officials extending down from the highest levels of national leadership to the district, division, village, and finally the cell leader for every ten-house grouping in the village has been established.³⁶ This chain of command is not merely for the purpose of passing down political directives to the villages.

³⁵The basic idea of the cooperative villages is outlined in, J. K. Nyerere, "Socialism and Rural Development," in Freedom and Socialism (Oxford University Press, Dar es Salaam, 1968), pp. 337-66.

³⁶C. R. Ingle, From Village to State in Tanzania (Cornell University Press, Ithaca, New York, 1972), discusses the political linkages and their operation for rural development in Tanzania. Pages 146-147 include a chart of the political organization from the division to the ten-house cell in the village.

At least in theory, village rural development program leaders can enlist the support of the powers of government in development schemes and proposals. As yet, just how successful this is in creating the opportunities for the political and economic participation of the people in the rural development of the nation-state is uncertain. It is clear that, in marked contrast with most African countries, development is seen as a process that must involve the economic and political participation of the masses of rural people.

- (2) For the development process of the nation-state to be sustained it is important that the process include only willing participants. In practice this means that the role of the government is to create opportunities to participate that people will find attractive, rather than to enlist participants directly. Creating opportunities to participate is a question of providing the possibility for an individual or group to acquire sufficient economic property assets supported and protected by the government. The willing participant must be prepared to forgo those private purposes that are not in the public purpose.

The urgent imperatives for development felt by many African leaders and intellectuals in the period since independence have created some bias towards the pursuit of development projects in spite of the apparent disinterest or unwillingness of the potential participants to go along with the particular scheme. There is an assumption that rural people do not realize the potential beneficial consequences of successful

agricultural development schemes in the way that the proposers of the schemes, committed government officials, and academics, understand them. This rationale is the basis of required participation. Many of the issues of whether compulsion or some form of social or economic coercion should be used to ensure the success of an agricultural development scheme are not stated in such stark terms as "required participation." However, the man who reluctantly takes up wage employment on a government agricultural plantation because there is no opportunity for him to participate in the development process in any other way, may prove as non-productive as his counterpart required to join a village cooperative against what he regards as his own interests (e.g., the establishment in Dahomey of cooperatives in areas where improved oil palm production is considered feasible; membership in these is compulsory if the users of the land wish to retain their customary rights of continued use³⁷). Just how far government initiative should go in trying to get the agricultural development process moving, when met by either the opposition of the local population to the scheme, or their reluctance to participate in it, is difficult to determine. Even in Tanzania communication from the top down to the village level as to what is required for rural development to be achieved is far more effective than communication

³⁷D. Christodoulou, Report of the Development Center on Land Policy for West African Countries, Freetown, Sierra Leon (F.A.O., Rome, 1964), pp. 20-21.

from the potential rural participants in the development process up to the public officials.

- (3) Whether willing participation in the development process is forthcoming may well depend on the nature of the land or agrarian reform proposed by the government in relation to the customary working rules and institutional arrangements that are presently operative in the society. The existing land tenure system and institutional arrangements in most African societies have the merit of being understood, recognized, and accepted as the bases of one man's dealing with another in matters pertaining to rights in land, even though they may discriminate between men and inhibit their opportunities to participate in the agricultural development process. For land or agrarian reform measures to create opportunities for participation in the development process for the majority of rural people there must be a close resemblance between the new ways men are to deal with each other on a day-to-day basis and the customary ways of doing this. There are just too many complex transactions, even in a rural society where production is primarily to meet subsistence needs, for any land reform to specify a completely new set of institutional arrangements for those customarily followed. Every extra change in customary working rules incorporated into land reform measures increases the risk of non-acceptance or misunderstanding of the significant purpose of the proposed reform.

It is for this reason that schemes proposed to replace a traditional subsistence-oriented agriculture with a modern investment-oriented agriculture yield such disappointing results. A good example of this is the failure of the Farm Settlement schemes in Nigeria. Irrespective of the high per settler costs of establishment, there has been considerable difficulty in recruiting and keeping settlers on the settlement scheme. In theory, the settlers are to engage in cooperative production activities on individually allotted holdings of land in a manner similar to that used in Israeli moshav settlements. For the young school leavers recruited as settlers, not only were there new farming and agricultural practices to adopt, there were also features of the social and economic organization of the settlements to be accepted. Settlers were not necessarily related to each other, yet they were expected to live in the same village. It was expected that each settler would provide needed labor from the immediate family, who would be unpaid, rather than from the wider extended family, who normally receive either remuneration for their services or at least obligations from the farmer to help the laborer establish his own farm. The settler is expected to live in a house either on his land holding or in the settlement, and to maintain just one residence. All these working rules are alien to those customarily practiced and accepted by farmers in rural villages of Western Nigeria.

The powers and initiatives of the government have to be used to fashion land reform measures that increase opportunities

to participate in the development process in such a way that only those elements of the customary arrangements that constrain opportunities to participate in the development process are transformed.

- (4) For there to be opportunities for willing participation in the development process that, as far as possible, incorporate existing customary institutional arrangements, land reform must be based on the requirement that other men avoid infringing the property rights of new participants which are recognized by the state. Direct specification of performance needed for participation in the agricultural development process is likely to create neither opportunities for willing participation, nor the incorporation of sufficient existing customary institutional arrangements for the proposed reforms to be understood and acceptable to the potential participants.

Specifying avoidances for others that the government will enforce, provides property owners a discretionary zone where they are free to pursue their private purposes in so far as such actions avoid the discretionary zone of other property owners. This is the key to opportunities for willing participation in the development process.

The identification of the appropriate avoidances that should be established with respect to rights in land, by a land reform, are difficult to determine except in the context of a given rural economy, an existing land tenure system, and its customary institutional arrangements.

Although confused by piecemeal and sometimes contradictory legislation, the intervention of the state into the land tenure system in Tanzania may be described as an attempt to create opportunities for willing participation in the land development process by specifying avoidances.³⁸ A series of legislative measures have reduced the rights of ownership in individual free holdings created for colonial settlement purposes (first established under the German administration by the Imperial Ordinance, 1895, and reaffirmed by the British-instigated Land Ordinance, 1923) to rights of occupancy that are substantiated by the productive use of the land consistent with the agricultural development purposes of Tanzania. Another set of legislation, applicable to land held by corporate descent groups for the individual use of members of the group as the basis of their subsistence livelihoods, has been enacted. This legislation provides collective or cooperative associations that wish to establish cooperative villages and thus participate in the agricultural development process with superior claims to land use by individual group members for subsistence purposes.

- (5) Increasing the number of opportunities to participate in the development process also depends on the expansion of economic resources as a result of new techniques and technology. One problem that did not arise, or cannot be identified in the

³⁸For a detailed discussion of land tenure legislation and policy in Tanzania see R. W. James, Land Tenure and Policy in Tanzania (East African Literature Bureau, Dar es Salaam, 1971).

agricultural development process of presently developed countries, but may become a problem in African countries, is that technological advances may result in increased production but the corresponding potential for the absorption of more participants in the development process does not materialize. Green revolution technology may increase productivity but only those farmers with sufficient land holdings, financial backing to purchase the new inputs and ancillary capital equipment, and enough of a going concern to be considered among those who have opportunities to participate in the agricultural development process already, are the principal beneficiaries. As yet there have been few green revolution successes in Africa.³⁹ When, or even before, the technological breakthroughs are made there may be grounds to instigate agrarian reform measures to ensure that the increased productivity is used to provide the economic basis for increased participation in the agricultural development process.

An even more serious problem may be faced by tenants-at-will where continued use of land depends on the minimal interest of the property owner in his land. Technological advances in agriculture that increase the attractiveness of agricultural enterprise may increase an owner's interest in farming his own lands sufficiently for him to dispossess the tenants. The

³⁹See René Dumont, "Notes sur les Implications Sociales de la 'Révolution Verte' en Quelques Pays d'Afrique," UNRISD Report No. 71.5 (Geneva, 1971), for an account of the social problems created by improved riziculture in Mali.

only place in Africa where true landlord-tenant arrangements are to be found on a wide scale is in Southern Ethiopia. Agricultural development schemes there which are located in areas of high incidence of landlord-tenant and sharecropping agreements (e.g., the Chilalo Agricultural Development Unit, a scheme that includes the introduction of agricultural mechanization to the area) have led to the displacement of former tenants by their landlords.

Demands for land reform in Ethiopia have a long history. There have been serious initiatives mounted by the Ethiopian government to initiate agrarian reform measures. There is even a separate Ministry of Land Reform. In spite of these efforts, as yet, it has not been possible to legislate and make effective reforms in the tenancy laws that would limit tenant's exposure to unreasonable demands from landlords for a large part of his crop.

It is extremely difficult to initiate land and agrarian reforms for the purposes of increasing participation of the rural poor in the development process of the poor, either individually or as a group, have no customary and inalienable rights to use some land. Any reforms proposed in such situations are likely to be contrary to the interests of landlords or others who control the land and who usually have the power to veto the legislation or make sure it does not become effective.

Landlord-tenant arrangements and other landed-landless laborer divisions are likely to become more prevalent in many African countries

if customary land tenure systems are allowed to evolve without government intervention. Since land reform and agrarian reform programs are so difficult to make effective where landlord-tenant arrangements prevail or where a landless laborer class has emerged, there is some reason for urgency in the initiation of land reforms to increase the opportunities for the rural poor to participate in the development process of the nation-state in which they reside.

Furthermore, if there is land reform before increasing population necessitates the use of most rural land and other resources for subsistence purposes, in many African countries it may be possible to create opportunities to participate in the agricultural development process for most rural peoples without extinguishing the subsistence opportunities of others.

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LAND REFORM: ENDS AND MEANS

A BACKGROUND STUDY TO THE IBRD POLICY PAPER
ON LAND REFORM

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LAND REFORM: ENDS AND MEANS

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I. Nature and content: Economic and social development, rural poverty and land reform.

1. Definition, purpose, and scope.

a. General definition.

Land reform is a systematic, policy-directed change in the terms under which the agricultural population holds and uses land. The objectives are, generally, to improve the farming population's economic performance as well as its economic and social situation. Objectives such as these are not independent of subjective value judgments, and the validity of the term "reform" needs to be checked, in each case, against the stated or implicit policy goals and political ideology of the country - those of its political regime and, where available, of its popular sentiment. 1/

b. Relation to "agrarian reform".

The wider concept of agrarian reform includes all sorts of measures for the technical, economic, social and cultural betterment of the agricultural sector, and agrarian reform can thus be pursued in situations where land reform is considered unnecessary (because its goals are already more or less achieved), or unfeasible for other reasons (because of the political power play or for other reasons). But land reform can seldom be thought of as effective without some other measures of supporting agrarian reform: a downtrodden and poverty-ridden population needs to be taught new production methods as well as participation and entrepreneurship; undercapitalized agriculture needs fresh investment in infrastructure, melioration works, and so on.

c. Specific objectives.

These can be specified to include: removal of land monopoly or oligopoly (even if existing only at the local level); improvement of distributive equity; and increasing agriculture's output, factor productivity, and market contributions (demand for goods from other sectors).

When developing these objectives into applied analysis and policy, their meaning will have to be made clear in several respects. Removing land monopoly means that land becomes available to a wide circle of agricultural producers, but it does not have to mean freehold ownership or a "free market" in farm real estate. Other mechanisms may also be used to allow the peasantry at large access to land and, equally important, to make them secure in continued possession.

Improving distributive equity in the agricultural sector begins with reform of the farm size structure (distribution of farms by size) - and this may in turn eventually have a good deal of influence on distributive equity in society as a whole - but it does not end there. Access to other means of production, and to marketing channels, are equally essential.

Factor productivity has to be well defined and has to be thought of as referring to all factors used in, or committed to, agricultural production - including underemployed labor lacking other remunerative outlets. Productivity must express the rate of return to factors in social account, it must not be confused with the rate of net return (to owned factors) in private account.

The product contributions of agriculture have to be weighed against the internal needs of the agricultural population itself which, after all, is part of the total welfare picture of the country. And the farm sector's increasing

demand for goods from other sectors must not mean that the acquisition of external capital is desirable in itself, even beyond the bounds of what the farm sector can carry at the stage of development where it and the country find themselves at the time.

d. Distinguish changes which are not "reform".

There are two points to be made here. On the one hand, the "drift of events" sometimes creates an agrarian situation which comes close to what a reform might accomplish. There were interesting cases in 19th century Europe, and some of the recent settlement areas in Latin America would also qualify if only the settlers had secure titles to the land.

On the other hand there have been policy directed or policy inspired changes which go in the wrong direction, from the viewpoint of land reform. The English enclosures of the 18th century and earlier - habitually over-rated because of faulty economic analysis - belong here; so do the secularizations of communal and ecclesiastical estates in 19th century Spain and Latin America which helped create latifundia or enlarge existing ones. Which way the collectivization in many Communist countries should count, is a matter of judgment. All of this is mentioned here in order to warn against the widespread belief that large estates exist as a result of "natural" market forces, and that peasant agriculture regularly has to be protected against the workings of such forces. No economy is ever free from institutional constraints, and the constraints characteristic of the liberal epoch, or of laissez-faire economies generally, are as "man-made" as any deliberate land reform.

e. Pilot reform versus full-scale reform.

Many responsible writers have recommended that land reform be tried out on a pilot scale before it is enacted into law for full-scale application. On paper this sounds good, but in practice there are weighty objections.

For one thing, pilot reforms lend themselves to use as a means of paying lip-service to the concept without achieving much. A prime example is the colonization activity in Portugal which was set in scene on some of the least fertile soils of the country and therefore, predictably, yielded the impression that new peasant settlement is costly and not very promising.

Moreover, the effectiveness of pilot reforms suffers from the fact that they take place within the framework of an economic system which is still essentially that of the old order. The history of pilot reforms in Chile reflects this: the installments were small enough to be atypical, to become deflected from their original purpose, and to be sabotaged by the vested interest of the still predominant large landowners.^{2/}

It comes down to this: we cannot sample the future, the effects of reform can only be appraised on the scale of reform which is intended to be final or nearly so. At best, pilot reform can be a good preparation of cadres and methods if it is of more than token proportions, is backed by strong authority, and is followed by full-scale reform relatively soon, as happened in Iran.

2. Land reform and productivity.

In older discussion about land reform, the objection was often voiced that reform might lead to less output, or less market sales, or lower productivity. These several motives were not always kept clearly apart. Output and productivity are of course inter-dependent, but this dependency is not always linear or even positive. Generally, the objections have been found to be baseless or at best

dependent on confusion of different elements in the situation. In the following, it will be necessary to maintain several distinctions, such as those between rate of return in private account and in social account, internal versus external economies, and the differences between several productivity concepts. The systems of management must be viewed in relation to the degree of intensity in resource use, and the technical properties of farm-size and farm-tenure situations must be viewed apart from incentive effects which may vary with general conditions in the economic system at large.

a. Productivity and farm size.

The old belief in returns to scale or to size in agriculture dies hard. It originated in the apologies for the English enclosures; because of faulty analysis it was incorporated in the theories of Marx and Kautsky and became a central tenet in Communist doctrine from Lenin onwards. Essentially this theory attaches importance only to the apparent rate of return in private account or in firm-level account - the social-account consequences are hardly noticed.

Evidence from the Communist countries on the working of very large-scale agriculture is mainly negative but is of low value to the theory problems, because it is too clouded by the effects of political interference in farm management to tell much about the merits and demerits of large-scale management as such.

The best evidence on the practical merits of large-scale versus small-scale operation in agriculture comes from the tropical plantation industries. When these were started as alien grafts on the colonial countries, the motive for large scale operation was twofold: short-run scarcity of managerial ability when the indigenous population could not be tapped for talent, and the trite fact that the colonizing entrepreneurs wanted large incomes for themselves. A recent

analysis in defense of the plantation relies heavily on arguments relating to externalities such as returns to size in processing plants (fermentation plants for tea leaves, ^{3/}dispulping of coffee beans, etc.), and the leverage on marketing channels. The absence of internal economies to size, e.g. in cocoa and coffee, is fully demonstrated by the viability, even the competitive superiority, of small-scale farms in West Africa and in parts of Latin America. Some of these cases also underscore the fact that returns to scale in processing do not carry over into farm production: division of labor dictates that the processing enterprises be held apart from the primary commodity production phase, while market strength is more effectively attained by cooperatives, marketing boards, or similar arrangements, than by even the largest farm firms trying to go it alone.

Even in technically very advanced crop and livestock farming, as in the Midwest of the United States, there is little evidence of internal economies to size. A study of cash-grain farms and hog farms in Illinois showed small differences in productivity when farm size was varied from 1 to 6 man-years, with the highest productivity in the sizes between 2 and 3 man-years of labor per farm. ^{4/}The modest scale advantages displayed by certain very large cattle feeding firms are now called in question because of the ecological constraints on manure disposal.

From those parts of the United States where large-scale, labor-hire agriculture is important, there is little evidence to show that the large scale has much merit in itself; the success of these large farms, such as it is, may well depend on factors outside the economics of on-farm production. For instance, the cotton plantations of the Mississippi delta area are by no means the most high-productive cotton farms in the country. ^{5/}

In the low-income countries, the most important argument on farm-size comes from the factor proportions, as demonstrated by Don Kanel.^{6/} Abundance of manpower and scarcity of capital, or of both land and capital, make the opportunity cost of labor low and that of capital very high. The economic effect of substituting capital for labor is frustrated if the labor substituted for does not find alternative, remunerative employment; in social account, the cost of production has in fact risen rather than been lowered, at the same time as the premature deployment of heavy equipment reduces the availability of capital in sectors where it is more urgently needed and hence more productive.^{7/} In such situations, the subdivision of larger into smaller operating units can do no damage, unless the units become so small that they can no longer afford animal draft power; such a situation reflects overpopulation more than it reflects farm size, and the way out, in joint use of animals on two or more farms, is known to be effective in many cases. The futility of premature mechanization is of course the same whether the large farms are under private, cooperative, or collective management.

The positive gain of subdividing farms into smaller size, when increased labor intensity is indicated by the factor proportions, is in the mobilization of surplus labor for agricultural production. The practical demonstration of this is in the higher intensity of land use on small farms which is known from many countries.^{8/} Because the welfare of many operators has replaced the welfare of few operators, the higher intensity of land use on small farms comes closer to maximizing welfare in social account.

The effects of higher intensity in land use can only be appreciated if area-unit output is measured in aggregate terms. It is not unusual for larger farms to have higher area-unit yields of individual crops, yet have lower aggregate

(value weighted) rates of output because of less intensive land-use patterns. A classical demonstration case was supplied by the Hungarian bookkeeping data from the 1930's.^{2/} Large farms had higher area-unit yields of wheat, a leading export crop, and the large landowners made much of this argument. But the smaller farms had lower wheat yields only because they, with their higher intensity pattern, grew wheat on lower-quality land than did the large farms; the higher-quality land of the small farms was used for higher-value, more labor intensive crops. The small farms not only produced much more output value and product per area unit than did the large farms; despite their higher population density they even brought somewhat more produce (in value-weighted terms) on the market (per area-unit of farmland) than did the large farms - the small farms' land-use intensity was that much higher.

On low levels of per-capita income, the external inputs which are needed to expand output are mostly of types which are infinitely divisible, such as fertilizers, improved seeds, and human skill.

Thus there is every reason for capital-scarce, low-income countries to organize their agriculture as small-scale, family based enterprise. The conclusion is underscored by the results achieved by very small farms in countries such as Japan, South Korea, Taiwan, and Egypt. It is significant also that in Europe until recently, some of the highest productivity results were achieved in countries with very small farms (by European standards) such as the Netherlands and Belgium.

b. Productivity and tenure systems.

Subjective incentive effects apart, the objective impact of tenure on productivity can be classified under several headings, such as (i) planning

horizon, (ii) rent maximization and the rationing of land and capital, including limitation to marketable commodities, and (iii) balance or imbalance in the economic power of landlords and tenants. As a technical matter, we must distinguish the effects of long-term versus short-term tenure and, within the latter, between the principal rental systems, notably those of fixed rent in cash, fixed rent in kind, and share rent.

i. Planning horizon.

One of the most obvious advantages of stable tenure (farmer ownership or long-term lease contract) is the length of time for which the farm operator may plan - affording the leeway to undertake land melioration work, plan for buildings, plant permanent crops if such are in the picture, and build up and maintain quality herds of domestic animals.

Conceivably all of this could be achieved also under short-term tenancy, on condition that the generally available contracts contained clauses to such effect, and assuming that contracts were consistently lived up to. As an empirical fact, however, the tenure maps of many countries reflect the relative advantage of long-term tenure for permanent crops and animal husbandry, as well as in areas of predominant subsistence agriculture, while tenancy tends to have its highest incidence in areas dominated by annual field crops intended for cash disposal. In part such regional specialization in tenure may reflect landlords' tendency to maximize rent rather than value added. The conclusion is hard to escape that high-intensive farming would thrive better and achieve higher productivity levels under secure, long-term, rather than insecure or short-term tenure. Again this might be less important in a country where factor supplies are roughly balanced (as in most of the United States), so that year-to-year tenants can function as if their tenure were much more secure in fact than it is formally. In low-income

countries with intense competition between underemployed peasants for the opportunity to rent land, such virtual security is not ordinarily to be expected.

The reverse of this is the fact that landowning farm operators are not necessarily secure in their possession of land if they are debt ridden and risk to have the property foreclosed at any time. This dilemma raises the question whether farmland should really be treated as a negotiable commodity or might better be inalienable, as in the Mexican ejido system.

ii. Maximization of rent and the rationing of land and capital.

Most land tenure theory has been concerned with the economic intentions of landlords - whether they are economic maximizers or not.^{10/} It is then too frequently overlooked that maximizing the landlord's income (rent, or net revenue from a centrally operated estate) is not necessarily consistent with maximizing value added or net income in social account. Past history has some drastic examples of landlords' accepting a lower output. So long as costs are lowered more than the output, landlords' net income would rise.^{11/} Some general and systematic reasons for discrepancies between land-use intensity and land rent were analyzed by Conrad Hammar in 1938, in an article which has been much too little noticed in current land reform debate.^{12/} The emphasis in his analysis is on the difference between soil qualities and the degree to which they lend themselves to utilization according to "efficiency" (high net rent) or "capacity" (high gross output or value product).

The principle is obviously applicable, in varying degrees, to a wide range of situations where there is a possible choice between crop alternatives representing different levels of land-use intensity. Such choices may imply capital rationing on the part of landlords - a useful function to perform in

countries such as the United States which have problems of over-production in agriculture, but hardly a desirable feature in poor countries struggling to cover all their (partly unfilled) food needs from domestic production. Specifically, it may often lead landlords to prefer monoculture of readily marketable crops rather than a system of polyculture which might raise the dietary standards of the local agricultural population. This is already a kind of land rationing. A high rental share to the landlord then is not only an expression of low distributive equity as regards income; it is also a symptom of the landlords' success in rationing the access to land for intensive farming purposes. In countries with large reserves of virgin or otherwise unused but potentially productive land, landlords may ration the access of peasants to such land, as a means of keeping them at work for the landlords. The case is best known from Brazil but may be valid elsewhere in South America: estate workers are only granted access to subsistence plots large enough to feed them in off seasons but too small to live on all the year. If they were granted larger holdings out of readily available reserve land, they might become unavailable for wage work (or as low-paid croppers) on the estates. It is the same principle which caused the east-German Junkers to resist land reform. The opposite occurred in most of the United States during the nineteenth century: the disposal of the federal domain afforded easy access to land, hence undercut the possibility of operating large estates with non-family labor, outside the plantation areas of the deep South.

- iii. Balance or imbalance of economic power between landlords and tenants.

This set of circumstances often has a profound influence upon the manner in which tenure arrangements work in real life. The saying that

"He who owns the land, owns all" still has application in areas of strong property concentration as in several countries in Latin America and some in Asia. The principle accounts for much of the differences in tenure relations within the United States. The prosperous tenant farms of the Midwest reflect the low concentration of land ownership: substantial tenants often rent land from several different landlords, each of whom owns only a modest piece of real estate. By contrast, the unhappy history of cropper farming in the Deep South, with landlords often cutting down their tenants' modest earnings through their operation of retail trade and credit, also was possible only because of strong concentration of land ownership combined with strong class solidarity within the class of large landowners. The same system has held much of Brazil's abundant land fund to the orders of a landed oligarchy, and there are parallels in other South American countries as well as in many Indian villages, for instance.

The productivity consequences of an extreme imbalance of economic power in favor of landlords is, obviously, above all to promote rent maximization even at the expense of rationing economic opportunity for the tenant class. In extreme cases it also keeps the tenant class so impoverished and inert that it gets the appearance of being an obstacle to progress.

There are of course also in-between cases, where a more moderate property concentration may have less deleterious effects. The power of local petty landlords in Japan, before the post-World War II land reform, was a case of concentrated political and sociological power, but no negative productivity effects can with any degree of certainty be attributed to it.

c. Incentive effects.

Apart from the objective working of the tenure systems, some of them also have productivity effects because of the degree of acceptance on the part of the peasantry. Their trust or distrust, their willingness to go along or to resist something they resent as alien to their way of life, is apt to have some effects on productivity.

An instance which is easily visualized is that of collective farming. It has been introduced, on a large scale, by the use or threat of force, in the Communist countries. It is known to be associated with low factor productivity, and whenever the political situation became such that the authorities must secure the support of the peasantry, the Communist system of collective farms tended to crumble, as in Yugoslavia in the early 1950s, and in Hungary and Poland in 1956. In the Soviet Union, the economic weakness of the collective-farm system has found implicit recognition in the attempts at relaxing its centralist constraints by delegating production decisions at the micro level to semi-independent small teams - a trend which is however resisted by party ideologists.^{13/}

Collective farming does not have any striking technical merits in itself. Rather it might easily, under less than skillful management, produce decreasing returns to scale. Such a tendency may be a large part of the reason for the continuing resistance on the part of the peasantry in those Communist countries where the peasants have, or think they have, a choice. But neither is collective farming inherently low-productive. It has been a widely publicized success in Israel and there are less publicized success stories elsewhere - in Italy, where all the official political regimes have held it in disfavor,^{14/} and in scattered instances elsewhere in the world. Voluntary acceptance appears as the most striking among the differences between such success stories and the

failures in Communist countries. Both the Israeli kibbutz population and the Italian collective farmers typify people who want to prove a point. The trouble is that most people are not likely to want to prove a point in the same way. Whatever "education" toward different societal goals the farming population may be receptive to - their free will is not thwarted easily or without penalty in the form of lowered productivity.

A more generalized incentive effect relates to the greater use of self-employed labor, both for more labor-intensive production practices and for investment in land melioration works. The incentive comes not only from the longer planning horizon under secure tenure but equally as much from the prospect of being sole beneficiary of labor inputs with a low rate of return near the intensive or the extensive margin of cultivation. Recent theoretical debate notwithstanding, there is in low-income countries a large scope for such work near the margins. Secure tenure, with no or but little rent payable from the output of such work near the margins, is more likely to elicit these additional efforts toward maximizing the national product.

Conversely, hired labor on large estates is often seen as working with rather low effect. Reports from the estates in Chile, before the land reform, indicated rather extreme cases of low work morale.

d. Labor and land productivity versus capital productivity.

The latent conflict between the interests of large landowners on the one hand, and the peasantry and society at large on the other, may be summarized under this heading.

The general assumption is that a private landowner tends to maximize the rate of net return to resources under his control. This includes his capital,

the market value of his land, the imputed market value of his own managerial services, and the wages he pays for hired labor and hired managerial services. It does not include the opportunity cost of labor left idle, permanently or in certain seasons, unless the workers are on his payroll all around the year. Nor does the concept necessitate the full utilization of the physical yield potential of the land. As long as the rate of return to capital, (including the money spent on wages) remains high, it does not matter if crop yields - in physical terms or in price-weighted terms or both - remain relatively low.

There are of course also landlords who do not even try to maximize their own economic returns in conventional terms. The Spanish latifundists who prefer monoculture may do so in part because such a system reduces the need for their own direct supervision of operations, and the tradeoff of leisure time for less money income may sometimes be attractive to those who are very rich to begin with.

But even apart from this case, it is by no means self-evident, and in many cases clearly incorrect, to identify the maximization of a resource owner's net return with maximization of value added or contribution to national product. The idling of labor is a cost to those workers, and to society which will have to sustain them in some way or other.

If such costs could be charged to the large landowners, more labor intensive systems of land use might be enforced. This was attempted in Fascist Italy, with none too impressive success. The landlords were recalcitrant, tried to make as little as possible of their obligation to hire labor, and the obligation as imposed on them meant in any event a ceiling on how far they could be moved in the direction of labor intensive farming. A much more practical way to achieve

the same result of high labor intensity is of course to place the individual cultivator family (or a group of families, if they so desire) in charge of production. The "owners" of underemployed labor will then be less hesitant to invest their excess time even at rates of return which are well below the going contract wage rates. For the large landlord, underemployed labor is an externality; to the individual household, it is an internal factor. In this way, land reform may lead to internalizing this extremely essential cost factor.

The switch to higher labor intensity after a land reform has effects which cut two ways at least - both of them in the interest of society at large. Apologists for large-scale landownership often object to land reform on the grounds that large entrepreneurs make better use of capital. Question is if they really do that in a low-income country where capital is scarce. Especially if they are enjoying the advantages of protected prices for some of their products, and of artificially maintained official exchange rates which make imported capital goods appear cheaper than they really are, the beneficial nature of incipient capital intensive farming must often be questioned. In a low-income country, a prime objective in deciding on the structure of agriculture should be to achieve development with the least expenditure of scarce resources of the types which can be deployed for use in other sectors of the economy. Thus the aim must be to maximize output per man and per area unit - both fixed resources in the agriculture of low-income countries - and at the same time to minimize the use of those kinds of capital that can be used to accelerate the build-up of industry and infrastructure. ^{15/} In the matter of labor productivity, the emphasis has to be on output per unit of labor available, not just the part of available labor that is actually used.

Needless to say, this advice is applicable in the degree that the country is low-income and agricultural, and has underemployment among its agricultural population, and according to the possible time path that must be reckoned with before a much different economic situation can be reached. Elementary clues on these points are not entirely lacking.^{16/}

3. Land reform and distributive equity.

a. Definition of distributive equity; some measurements.

Distributive equity means the degree to which units in a system are unequal. Empirically, all economic systems include individuals with unequal income and unequal wealth. Complete equality we see nowhere, but the degree of inequality is often very significantly different between countries, between regions of a country, or between social strata even in the same country. Empirically too, all economic distributions are skewed to the left. The rich are always fewer than the poor, and it could hardly be otherwise since we are looking at attributes which are in scarce supply: the chance of finding a large heap of wealth is smaller than that of finding a smaller one. The chances are in some way inversely related to the relative size that is aimed at, but the relative frequency of size groups, and the probability of transition from one size group (of income or wealth) to another are not the same everywhere, they are a function of the degree of inequality and skewness prevailing in the system. Generally, the distribution will be the more skew, the more unequal it is, and vice versa. A distribution implying complete equality would have no skewness, and distributions implying a low degree of inequality (relatively high distributive equity) usually are only moderately skew too.

The traditional measures of inequality are either inadequate, as the Pareto function and the lognormal function, or inexpressive as is true of Lorenz'

curve and the Gini ratio which summarizes Lorenz' curve into a single indicator. This writer has worked out a more elaborate system, based on the negative exponential function. It fits the entire distribution in many cases, and it permits a more articulate analysis of the details of distributive equity.^{17/} From among exponential parameters, the median/average ratio is chosen as the simplest way to represent each function, with the proviso that more detail on the peculiarities of a given function can be discovered by more elaborate application of exponential-function analysis. Suffice it to say, for now, that the median/average ratio has been found to be highly correlated with the Gini ratio; thus exponential-function analysis replaces and does not contradict any analysis based on Lorenz' curve.^{18/}

Exponential-function analysis also relates well to graphic presentation in the form of "distribution ogives" or interval-frequency diagrams. A few examples are shown on the attached sheet, borrowed from a forthcoming article.^{19/} These examples point to some of the striking properties of these distributions. The curves representing relatively high distributive equity are dome-shaped, with a more or less clearly articulated mode which is closer to the median and the average, the higher the median/average ratio. In a very high curve, such as one with median/average ratio = .90, the bulk of the population are middle class (nearly 3/4 are between 1/2 and 2 times average size, and control a similar proportion of the aggregate income); there are also some poor people, but they are a relatively minor segment. The rich too are not proportionately as numerous as happens under lower distributive equity. Under low levels of distributive equity, with median/average ratios of .70 and lower, there is no discernible mode, the highest frequencies are at or close to the bottom of the scale. The poor are a majority, middle class people are relatively few, and the rich are relatively more numerous

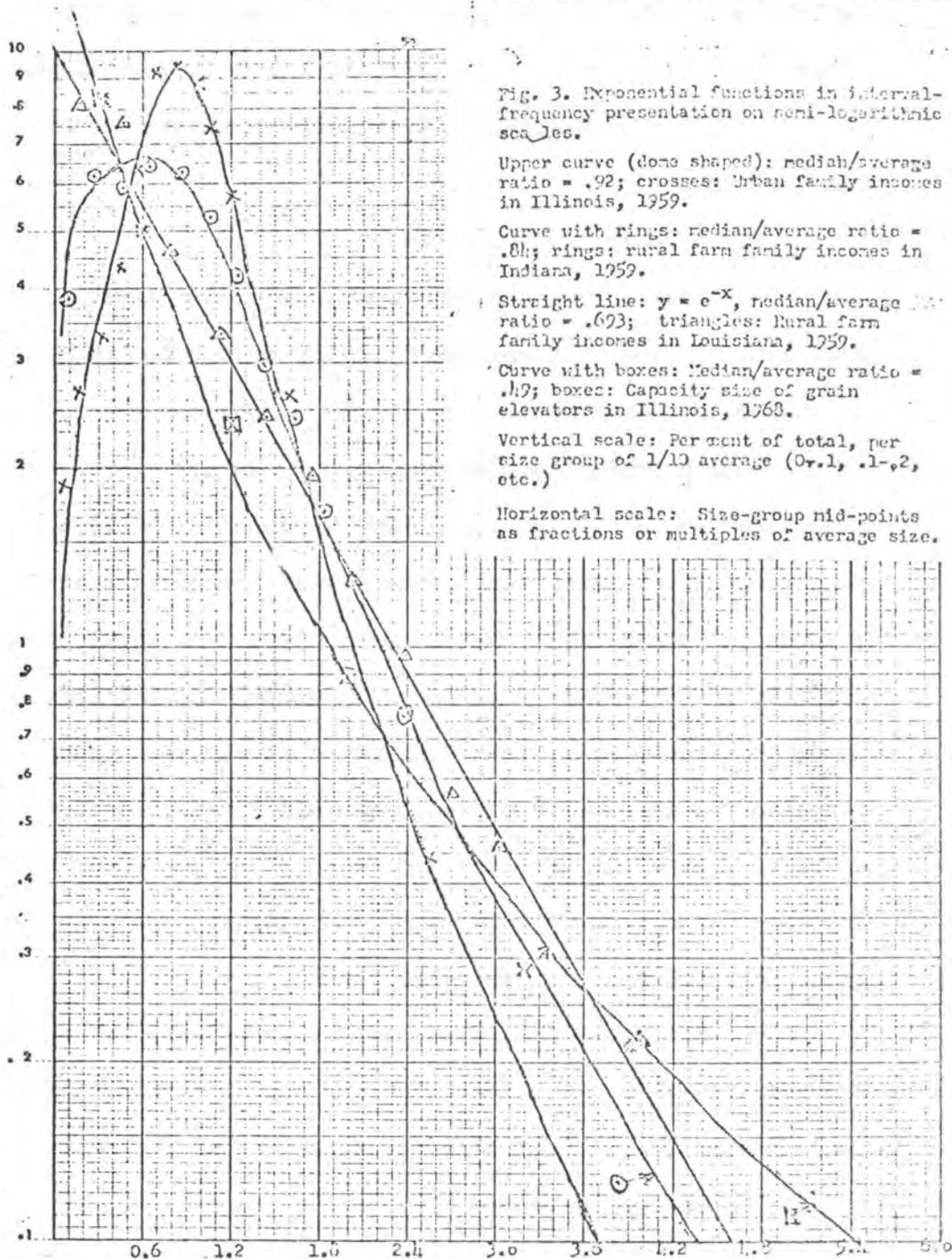


Fig. 3. Exponential functions in interval-frequency presentation on semi-logarithmic scales.

Upper curve (dome shaped): median/average ratio = .92; crosses: Urban family incomes in Illinois, 1959.

Curve with rings: median/average ratio = .84; rings: rural farm family incomes in Indiana, 1959.

Straight line: $y = e^{-x}$, median/average ratio = .693; triangles: Rural farm family incomes in Louisiana, 1959.

Curve with boxes: Median/average ratio = .49; boxes: Capacity size of grain elevators in Illinois, 1968.

Vertical scale: Percent of total, per size group of 1/10 average (0+.1, .1-.2, etc.)

Horizontal scale: Size-group mid-points as fractions or multiples of average size.

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than in areas with higher distributive equity; under low distributive equity, the rich also control a very large part of all income and wealth, which is not in the same degree true of the rich in a country with higher distributive equity.

This visualization of the distributive functions will serve the treatment that follows.

b. Effects on production.

Some effects on land productivity and level of output can be rather directly concluded from what was said above (2a) on productivity and farm size. The higher the distributive equity, the larger the role of those smaller farm sizes on which production per area unit is larger because of more intensive land-use systems and more labor intensive cultivation practices. Conversely, very low distributive equity will accentuate any tendency that may exist on the part of large landowners to ration access to land - in total, or specifically with regard to intensive-use purposes. The social-account irrationality of such rationing of the access to land for intensive use is often clouded in conventional statistics because the disadvantaged small farmers and landless workers, who get lower incomes in such circumstances, also have lower economic demand for the very same reason. The mechanism which restricts production also restricts the demand for both food and ~~the~~ other goods.

More indirect effects can be traced through the quality of labor which is gradually molded by the economic and social circumstances in which the workers live. We may dwell on two separate aspects: physiological work strength and the training of managerial talent.

The most direct effect concerns nutrition. The vicious circle operating in many low-income areas has been analyzed by Leibenstein. ^{20/} Underfed people

become physically weak and morally inert. So their marginal productivity is low. If they work for wages, the wage has to be low too, or the employer would incur a loss. If the underfed workers are self-employed on very small land resources, their low labor productivity will hamper or retard any possibility of transition into better conditions. In the case of wage labor, it might actually be to the advantage of the employers to supplement the conventional wages by an additional wage-in-kind in the form of free meals on the job. For wage-labor employers to do this, assuming they understand the situation, would require one of two things: either the market for the goods they produce must be expanding vigorously, or else they will offset the increased labor cost by hiring fewer workers. The latter alternative is of course less of a solution in social than in private account. And the improvement in real wage and nutritional level may not automatically increase the actual input of work - sometimes the incentives offered are not sufficient for that. Land reform as a means of increasing distributive equity is likely to have a more automatic effect of improving the productivity of agricultural workers.

In a more long-term way, improved distributive equity will improve the productivity of agricultural workers also by extending more rewards for the efforts of individual self-improvement. There is a widely used quote about the typical Danish peasant in mid-eighteenth century, before the start of the rural reforms: "Everyone says that Jeppe is drunken, but no one says why Jeppe is drunken". Sobriety was among the virtues which increased with the responsibilities of independent landholding. A parallel is often heard of from Latin America in recent years. The rural peons have no managerial ability so how can one place them in charge of production on holdings of their own? The obvious counter question

is, how can they ever develop managerial ability unless given a chance to try? Native talent of the caliber required to run a family-sized farm is no doubt widespread in most any agricultural population, but such talent will remain dormant among those who never are allowed to cultivate it.

c. Effect on saving.

Received theory insists on the empirically found positive relation between income level and the propensity to save. The higher the income, the larger the share of it that is saved and made available for investment, since more of the ordinary economic demands for goods and services of the individuals will have been satisfied. Hence many economists of neoclassical persuasion object to land reform and other measures designed to increase distributive equity on the grounds that aggregate savings would be reduced, hence capital formation and economic expansion would be hampered.

This widely accepted theory is faulty on at least two counts, both of which stem from the use of cross-section analysis to underpin static theory. Development being a dynamic process, something more than cross-section analysis will in fact be needed to show what is likely to happen when distributive equity is strongly increased under the conditions of an expanding economy.

To begin with, savings are likely to go up already if incomes do, and by the reasoning advanced in previous sections, aggregate income should increase as one among the consequences of land reform. If at the same time, as is likely, the productivity of factors goes up, and labor substitutes for capital as should also happen as a consequence of land reform, less conventional savings will be needed in agriculture to obtain stated additions to output. The forms of capital which farmers create mainly by aid of their own means (such as land melioration,

etc.) are of course also not as dependent on conventional savings - they are themselves a form of savings, as such frequently overlooked by economists.

Second, and perhaps more important, the total propensity to save can not be assumed to be independent of the distributive-equity situation. Empirically, the propensity to save is rather different in different countries even at the same level of per-capita income. Countries with very low degrees of distributive equity, such as several of those in Latin America, have not been known to maintain particularly high rates of savings. Thus the absolute level of savings is influenced by other factors than the distribution of incomes among persons. Among these factors we must reckon with social mores, and these may be influenced by low distributive equity in a way which is not favorable to the maintaining of a high absolute level of savings. When distributive equity is very low, the rich classes may save some fraction of their incomes at the same time as they indulge in a good deal of conspicuous consumption. The spending of the rich then often produces a demonstration effect among the middle classes who may engage in attempts at emulating the way of life of the rich. In such a situation a change toward higher distributive equity could well lead to a higher absolute level of savings even though more of the income now goes to strata with relatively lower propensity to save. The absolute level may have risen in response to a change in the generally accepted values in regard to luxuries versus frugality.

This formulation of the problem highlights how unrealistic it is to base the whole problem of distributive equity versus savings on cross-section data and static analysis. Two examples may serve to show the influence of social mores on the absolute level of spending in a country.

On the one hand the experience of post-war Japan, with high rates of saving far down into the ranks of workers and lower-middle-class people, illustrates the significance of a social attitude geared toward saving; in this case, the same people could appreciate, in their own lifetime, the improvement in level of living which their own lifestyle had rendered feasible.

As a case in contrast, consider the conspicuous consumption at weddings and other social occasions in otherwise rather poor peasant communities which is known from many countries. This type of dissaving is not occasioned by the material needs of the population but reflects an ambition to "show" in the competition for social prestige. Less access to credit may sometimes be part of the answer to a problem like that, but less attention to the spending of the rich classes would help even more. And that is likely to obtain mainly on condition that the rich classes are less in evidence - and of course also if the rich are less highly esteemed, something which is also more likely under a higher degree of distributive equity.

This problem of demonstration effect and social imitation is by far not confined to the urban classes or to backward people. There are many situations where the lifestyles of the "manor people", by spending more on luxuries rather than investment, will have negative effects also in the rural community by the emulation it calls forth.

In addition, there may also come about an indirect savings effect from increased consumption. With higher incomes, the peasants will demand more industrial goods (see below), and when these goods come out of excess capacity in existing domestic plant, the raised profit level in those industries should result in more internal savings within the firms concerned, part at least of which is used as investment for expansion of the same industries.

d. Effects on consumer demand, hence on other industries.

Higher incomes lead to increased demand - so much the more so, the lesser the propensity to save on each specific income level. The complaint often made that farmers after land reform will eat more, thus sell less of their products on the market, is at best exaggerated; it confuses ends and means since farmers are also part of the public whose welfare is at stake, and it seldom remains valid for very long. Even in low-income peasant communities, the income elasticities of demand for other consumer goods are usually higher than those for foodstuffs. Increased distributive equity should result in rising demand for clothing, footwear, household goods, etc. This could happen already as a direct result of redistribution, but should in any event take on more scope when the output-increasing effects of higher distributive equity make themselves felt.

Some such effects have been noted in direct connection with land reforms. Among the AID country reports on land reform (1970), the report on Iran noted improved clothing among the peasantry not very long after the land reform. The reports on Bolivia, Venezuela and other Latin American countries mention better and newer household goods among the beneficiaries of land reform.

Apart from the beneficial effects of improved consumption among the farming population, such increased market demand for consumer goods also sets off multiplier effects on the economy, namely to the extent that the goods in increased demand are manufactured in the country and come from industries with excess capacity. A prime example is the textile industry in Iran which undoubtedly received a booster effect already within a short time after the land reform.

This point is important because the redistribution of purchasing power is likely to mean a shift in consumer demand away from the luxury goods

demande by the rich and in the direction of the everyday necessities for which the poor have a high degree of unsatisfied demand. The significance of such a shift for the national economy and its development is in the fact that the consumer goods in higher demand under higher distributive equity are likely to be those which are or can be manufactured in the same country still in the early stages of industrialization. Textiles and footwear, with food processing, are typical of early industrialization in today's low-income countries, as was true in England in its early phase of industrialization. Such "light" industries are usually relatively labor intensive and often have a relatively low import content in their final output; yet they rely on genuine mass production, hence make important contributions toward rising factor productivity in the national economic system.

The luxury goods in demand under low distributive equity, by contrast, are often to a large extent imported, or have a high import content; when manufactured or assembled in the country, they often rely either on highly capital intensive processes; or else, to the contrary, they belong in the categories of handicraft and personal services neither of which, of course, does much to raise factor productivity.

This contrast between the goods of higher and of lower import content has some parallels in the agricultural sector's demand for input goods under pre- and post-reform conditions. Small farms are likely to concentrate their purchases of external factors to easily divisible goods such as chemical fertilizers, for instance, the manufacturing of which many low-income countries can undertake without too much difficulty. Large farms, by contrast, are more likely to use part of their expendable funds to buy heavy machinery which is less frequently made in the same country, or in any event has a higher import content.

The tradeoff between the saving of the rich and the spending of the poor is thus relatively clear. Even to the extent that total direct savings by individuals become smaller under higher distributive equity (and this, we argue, is not as likely as usually assumed), yet the booster effects on domestic industry should be such that industrial capital formation and industrial expansion are accelerated.

e. Effects on social mobility.

The level of distributive equity deeply affects the possibilities of social mobility that can exist in a country. Basically this is a matter of simple numerical proportions, but these are compounded by scarcity and by vested interests. The consequences of low social mobility are not merely in the minds of individuals and classes; they extend to the economics of mobilizing dormant talent and the recruitment for qualified positions.

The working of the numerical proportions can be gauged from the diagram shown above, which is drawn in terms of size-interval frequencies. The most important thing about it is the observation, confirmed from analysis of numerous real-world data series, that the proportions between the frequencies of the various income levels are functionally related to each other, reflecting a certain set of competitive relations which are more or less pervasive in a given society and generating a certain set of transition probabilities from one income group to another.

A high degree of distributive equity, exemplified on our chart by urban incomes in Illinois, means not only that most people have incomes not very far from the average. The same thing also means that most people are born into middle-class circumstances and thus have their start in life in not too uncomfortable conditions. Most of those they compete with, whether for advancing beyond

the middle classes or just for remaining there, come from backgrounds which are also in the middle classes. The poor, those with incomes far below average, are a sizable segment but they are definitely a minority. The chance that someone from the low-income strata may move up into the middle classes is statistically good; the number of openings in the middle classes is several times larger than the number of low-income individuals who might want to advance. Because of the breadth of the middle classes, the competition for those middle-class situations is not extremely fierce; the talented and energetic from below do have a fair chance to move up, unless they are hampered by prejudice because of race, religion, national origin, or sex.

On the other hand, the rich are relatively few under high distributive equity, so the chance of moving from middle class toward great wealth is not as evident. The number of the very rich may sometimes be somewhat larger than would be expected from the general shape of the function, because of specific rigidities surrounding the "star" positions; it is easier to remain there than to get there.

A low level of distributive equity, typified on our diagram by rural farm family incomes in Louisiana, has no discernible mode. The highest frequencies are at or close to the bottom of the scale, and all the subsequent higher income levels have lower frequencies, the higher the income is - in this case in close agreement with the (untransformed) negative exponential function. There are even lower levels of distributive equity elsewhere in the world, e.g. in South America. When the poor are numerous and the middle classes less so, the statistical chance of moving up is not very good. Those who might want to move up are more numerous than the number of possible openings they would compete for. With the greater scarcity of middle-class positions, the competition among those born into such positions to remain there is correspondingly keener, leaving even less chance for any upward movement from among the poor. The rich are relatively more

numerous than is true in a country with higher distributive equity, but the class barriers are also more rigid, the advantage of inherited wealth more of a determinant than is true in the more fluid situation of a country with high distributive equity.

The most immediately comprehensible effect of low social mobility is in the frustrating of social ambitions. This may be more than just a disappointment for those whom it concerns most directly. One of its effects is in a lesser degree of dynamism in society, and a greater risk that social conflicts will be sharpened and thereby exacerbate any tendency toward political instability.

For the economic development of a country, the consequence of low social mobility is not hard to visualize. For rapid development, any country needs to mobilize the dormant talent of its people and select freely the best candidates for qualified positions. When part of a society's talent remains unused or badly underused - whether because of socio-economic class stratification or for other reasons - then society is denied one of its most valuable assets. ^{21/}

Evidently, a relatively high distributive equity is a more suitable setting for talent scouting and selection of qualified personnel than a low one.

Just how high distributive equity can go without frustrating the stimulant of competition, that is a problem that does not seem to have received much attention. There may be some degree of distributive equity, relatively high but short of complete equality for everyone, which is optimal for economic development. Whatever that optimum level may be, there is no reason to think that any of the countries where land reform is being contemplated, is anywhere near to such an optimum. These countries all can use some improvement in the direction of raising the level of distributive equity.

This whole problem complex regards not merely agriculture on account of its own internal development. Equally as much, it concerns agriculture as a

sector of society and as the source for much of the future recruitment of workers for other sectors in the economy. There are reasons to believe that the degree of distributive equity which prevails in the agricultural sector may have an influence on the distributive equity which comes into being in other sectors.

Contrary to what might appear from recent debate on the topic, the experience of the United States has been relatively positive. Most parts of the country have relatively high distributive equity, with exceptions caused by ghetto formation and other social rigidities. Distributive equity in the United States is particularly high in the upper Midwest (the Lake States and the northern parts of the Corn Belt). In this region, it is plausible that a relatively high level of distributive equity has been influenced, as one among its sources, by the originally rather high distributive equity prevailing in the farm sector, as a consequence of the ways in which the federal domain was released into private ownership - what happened here in the nineteenth century was in a sense a landreform "ex ante". The lack of any parallel experience in the Deep South still shows in the lower distributive equity prevailing there, both in rural and urban areas, as compared to the Midwest.

An example of how increased distributive equity in the agricultural sector may affect the social stratification outside it is given in the AID country report on land reform in Bolivia (1970). As one of the consequences of the land reform, the system of marketing agricultural products was completely changed. Instead of the large landowner or his agent taking the produce directly to wholesaler in the city, much of the farm products are now sold at small-scale, local country markets where small-scale peddlers, recruited from among the local peasantry, act as middlemen between the farm producers and their ultimate customers in the

cities. The transition to a marketing system which employs more people is only seemingly a disadvantage, for in reality it absorbs some of the underemployment in the rural areas; and intensive peddling is not entirely void of economic usefulness, as it may lead to more careful estimation of the merchandise's value in each case.^{22/} But the wider distribution of economic opportunity should not be underestimated. The new rural peddler class is a likely recruiting ground for commercial entrepreneurship in the country, where now many more men may gain entry, causing heightened competition and, eventually, better service to the economy and the country.

In general, distributive equity appears to become higher, the higher the level of per-capita income in a country. This could be because a more high-productive economy has more to go around, so the competition for scarce goods is less keen. It could also be that a high-productive economy experiences more scarcity of specific competencies, especially those related to the risk associated with capital intensive production, and so is forced to offer the skilled and the semi-skilled better conditions. Labor unions may of course also have their effect. But none of this is any reason for the low-income countries not to do anything about distributive equity in the near future. The reasons given above are not pure theory. A good demonstration case as to the negative effect of maintaining sharp class divisions is given by Italy which through much of its modern development has suffered from shortages of skilled labor, a logical penalty for maintaining large masses of people in deeper poverty than was inevitable.

4. Existing land systems and the need for land reform.

a. Definition of "land system".

The land system of a country includes above all the critical variables of ownership distribution, farm sizes and their distribution by size classes, and the modes of tenure and their relative importance. In addition, we may also note the patterns of land settlement and land layout, and the system of land titles and records.

The distribution of ownership is seldom covered in modern agricultural statistics. It is known with some certainty only in countries where all or most of the land is public property either at the state, communal, or tribal level. In countries where private property is dominant, the statistics pay little direct attention to ownership distribution. In some countries it is shown implicitly by the tenure statistics: if most or nearly all of the land is in owner-operated, family-sized farms, then the farm-size data come close to reflecting also the ownership situation. But in countries where many large estates are run through hired managers, the wealth of rich individuals is sometimes much larger than the largest estate.

Farm size and tenure are interrelated and sometimes the borderline is blurred, owing to the classification of dependent sharecroppers who are sometimes returned as tenant farmers and sometimes as hired workers. Including or excluding the microfundia will sometimes cause serious differences in the apparent proportions between the tenure classes.

Farm size is usually given in area-units - of total farm area, or in some restricted area criterion. In either case, geographical variation in soil quality, climate, topography etc. will often cause distributive equity to appear lower than it is when measured in real economic terms. Analysis by homogenous regions or sub-regions is often necessary for a meaningful presentation

of the size distribution of farms. The extent to which large farms use hired labor is often a useful additional criterion of farm-size inequalities.

The modes of tenure are usually covered in the statistics in some rather crude way, omitting important sub-classifications. Whatever the face criterion of the tenure terms, their real meaning is deeply affected by the actual economic power relations, especially the concentration of ownership of land and capital.

Land settlement and layout are often pointed to as important variables which may restrict productivity development. Settlement in huge villages or "agrotowns" appears to limit the intensity of land use - or, conversely, are regarded as favorable for collectivized farming. Scattered and fragmented land layout is essentially a symptom of underemployment; the harm it does in a situation of great underemployment is not very important. Only when farm labor begins to be scarce, will land consolidation become important, and in such situations there is a tendency for some of it to come about spontaneously, through the local real-estate market.

Land titles and records are a valuable instrument for making the land system work more efficiently, but it would be a mistake to consider them a prerequisite for successful land reform. The establishment of a functioning land title and record system is often slow and costly. In the meantime, local real estate affairs are regulated by local recognition, and this should be sufficient also for the re-distribution of land through land reform.

- b. Description of the principal land systems; which parts of the world are indicated for land reform.

i. Latin America.

Among the major regions of the world, the number one case for land reform is still undoubtedly Latin America, despite some successful departures in recent time.

As a region, Latin America has less distributive equity in its land system than any other major region. Settlement by conquering Europeans created highly concentrated land ownership, often utilized in the form of large centrally operated estates. These exist or have existed in two principal forms. One is the overlordship over local indigenous communities (especially in central Mexico, Guatemala, and the highland parts of the Andean countries). The other is the export-oriented colonial plantation or ranch, variously known as hacienda, fazenda, estancia, etc. In contrast to North America, most areas in Latin America did not give independent individual settlers access to wilderness land. The public domain was disposed of to the already wealthy. New immigrants either remained in the port of debarcation (as typically in Argentina), or became landless workers or dependent sharecroppers as in Brazil. Direct access to virgin land for settlement was less important and occurred mainly in rather recent time, as in north-western Colombia and parts of Venezuela; more often, new settlers became squatters on untitled land, exposed to dispossession whenever the public-domain land they had settled was found to be the private property of some large landowner.

Many large estates were created or further enlarged in the late nineteenth century when church estates and village commons were confiscated and sold in the open market.

Consequences of the extreme property concentration are rather different according to the countries and regions.

The indigenous communities of the highlands, densely settled and labor intensive already at the time of the discoveries, are often mired in a chronic inertia of deep poverty, sometimes as badly as in congested areas of monsoon Asia. The revenue which landowners can draw from such areas can not be very large, and the improvement to the peasants, if they are given the land free of charge, is only a rather small first step toward improving their conditions.

The ranching areas, by contrast, remain rather sparsely settled and used on low intensity. The Pampas region of Argentina, most of Uruguay, and portions of southern Brazil are prime cases. Eventually, somewhat more intensive land-use systems come into being but accompanied by mechanization, thus opening up little more employment to the congested populations elsewhere in the same country or adjacent countries. The llanos in Colombia are a striking case: the good land in the valley bottoms remains extensively used, while congested small peasant communities eke out a very bare living on mountain-slope nearby in the same country.

Inbetween these cases, the old plantation areas in north-eastern Brazil, with eroded soils and undermined economic base, have come into the grip of demographic congestion and human degradation not very far from conditions in the old highland settlements.

It should be added that because of the privileged economic positions long enjoyed by the large landowners, many of them were not very energetic in maximizing the production of their estates. Extreme is the situation which prevailed in Chile for many decades, where landowners could virtually live on real-estate credit combined with running inflation, even as the estates were often very low productive.

The principal land reforms in the region have been in Mexico, where most of it has been accomplished, in Bolivia and Cuba where they were sweeping, and recently in Chile and Peru where the results are still to be evaluated. More piecemeal measures in other countries have brought at best local relief as in Venezuela, Ecuador, and Guatemala.

ii. Southern Asia, *Southeast Asia and the Middle East.*

Outside Latin America, the most evident cases of a need for land reform are in southern and south-eastern Asia and the Middle East.

The land reforms in India and Pakistan shortly after independence did a very incomplete job of redistributing ownership. Zaminadari abolition removed a quasi-feudal tenure situation - stemming, essentially, from tax-leasing arrangements under the British - but in many areas only the smaller zamindar's were really dispossessed in favor of the peasants. The larger zamindar's often got the opportunity to consolidate their estates into full private property. For a time at least, some of these large estates were disguised as "cooperatives", the members of which were in fact all relatives of the landowner. Even where the census of India shows a structure of moderately large-sized peasant farms ostensibly cultivated by their owners (such as the bhumidar's of Uttar Pradesh), these landowners often function as petty landlords, renting out parcels of land on short-term share-renting contracts which are technically illegal but widely tolerated.

Laws establishing a ceiling on the size of individual landholdings have long existed in many parts of India but enforcement has been feeble or nil. The Indian government's renewed resolve to implement the ceiling provisions is faced by the fact that such measures are the responsibility of state governments, not the federal government.

The independence of Bangladesh has brought the land reform issue into renewed focus in both Pakistan and Bangladesh. The problem in Bangladesh is not so much one of glaring inequalities as of extreme demographic congestion and resource scarcity, making even a moderate degree of distributive inequity difficult to tolerate. At the same time, some of the politically most active elements are among those that would stand to lose from a redistribution of land.

Both in Pakistan and in many parts of India, distributive equity in farm size is lower than in Bangladesh, and the problem is further complicated by the impact of the so-called "green revolution" which under existing conditions tends to favor the larger landowners who have greater ease in securing credit. The risk of lowered distributive equity as a consequence is among the arguments currently under debate.

Other Asian countries with continuing need for land reform include Nepal, the Philippines, South Viet Nam, and Malaysia, to a lesser extent Indonesia. Cambodia and Thailand have relatively little in the way of land problems, while Burma may be a less clear case.

In the Middle East region, land reforms have been rather far reaching in Egypt and Iran. The reform in Iraq is at best not accomplished, and the approach and concept may be in need of revision before the reform can be completed. Considerable inequality in land distribution persists in Syria, Lebanon, and Turkey.

iii. Not indicated for land reform: Europe, eastern Asia, tropical Africa.

Western and most of southern Europe are now rather far removed from any situation inviting the conventional concept of land reform. The agricultural sector is shrinking, its labor force is declining in absolute numbers and often at an accelerating pace. Land problems include consolidation of fragmented holdings and the gradual transition to large farms (in land area -

not in terms of manpower), and in many areas also the transition to less intensive systems of land use, implying some disinvestment and sometimes difficult economic adjustments.

This does not mean that land reform problems have always been absent. Central Europe did in fact benefit greatly from the policies in favor of landowning peasant farmers set in motion by the Cameralist policies beginning in the 18th century. Parceling out land to smallholders has gone on in some countries until about the time of World War II. The fact that these various policies are now outdated does not mean that they were not beneficial in their time.

A more puzzling prospect is that of the Mediterranean countries. The southern parts of Italy, Spain and Portugal have long been strong cases for re-distributive land reform. When it came on some scale in Italy, beginning in the early 1950s, the whole situation had become so different that many results of the reform have been abortive. Ten years after, the reform agencies found themselves with settler holdings whom no one wanted after the first settlers had left for more remunerative employment outside agriculture. The post-war land reform in Italy is a typical case of action at too late a phase of development. It would have been much more useful if undertaken around the turn of the century, or in the 1920s at the very latest, which would have been more analogous to present situations in low-income countries of Latin America and Asia. In Spain and Portugal, reform measures have remained piecemeal and "pilot scale" until these countries too begin to feel the effects of accelerating economic development and net rural exodus helped, among other things, by job opportunities in central Europe.

None of this means that the land reform measures in the Mediterranean countries have been in vain. Especially in Italy, they have contributed, if late in the game, to the upgrading of backward strata in the population.

Eastern Asia has had a series of the most far reaching land reforms of any major region, since World War II. Those in Korea, Japan, and on Taiwan leave little to be done. Mainland China is a case quite different from the other countries, but there certainly remain no traces of individual property concentration.

Tropical Africa is also not a major case for redistributive land reform, but for reasons essentially different from those of most major regions. The tribal land system, with its communal ownership functions as a kind of social-security system for anyone who remains identified with the tribe of his ancestors. The land problems are those of mobilizing land for progressive farming without destroying the modicum of economic security which the inherited system conveys. Various formulas are being tried in some countries.

The conventional land reform problem might appear in those countries having substantial sectors of plantation-type agriculture - Kenya, Rhodesia, and of course, South Africa. In Kenya, the beginnings of land reform in the "white highlands" indicated that for the cost of conversion to native smallholder agriculture, greater benefits from the same funds were to be obtained by using them for modernizing traditional native villages, in areas previously untouched by the modernizing influences typified by the foreign settler agriculture.

iv. Second thoughts: The unfinished business of eastern Europe.

Communist commentators often point to collectivization and the formation of state farms as a type of land reform - the ultimate type, in the views they propound. It may be discussed however whether it is in fact a definitive type of arrangement. Experience has been mixed and contains many negative elements. The spontaneous reversions to private farming in Yugoslavia and Poland, and the abortive attempt to do the same in Hungary, indicate serious problems with the system of very large operational units. Tendencies toward internal

decentralization in the management of such units, in the Soviet Union and Hungary and elsewhere, also underscore the possibility that the large scale and the centralized management which were the principal ideas in early Communist land policy, may have to be reviewed systematically. Yet another land-system reform may be to the advantage of at least some of those countries.

5. Models of land reform, past and possible future.

a. Tenure change- turning tenants into owners.

This would appear to be the simplest type of land reform, and is also the type that has had the largest quantitative scope in the past.

A reason for the prevalence of this type of land reform is the fact that most land systems have implied the use of landlords' land through tenant farmers, usually on family-scale farms. Central operation of large estates - directly by the owner, or through a hired manager, or through tenants operating very large units - has had relatively less scope on the whole. Even so, many estates which have been labeled as centrally operated were or are, in fact, farmed by share-croppers on family-sized or even smaller units.

Thus it was that liberation of the serfs in the nineteenth century in Russia and elsewhere in eastern Europe left in place vast populations of small-scale landowning farmers. The gradual tenure reforms in Ireland, which eventually gave nearly all Irish farmers full fee simple ownership, also proceeded from the tenant farms as they existed. The case was similar, for instance, in southern and western Yugoslavia in the 1920s: the ownership rights of Turkish landlords were abolished and peasant farmers were elevated from share tenants to small-scale landowners. Conversion from tenancy to ownership was also the essential feature

of the land reforms in eastern Asia after World War II - even in mainland China, centrally operated large estates were on the whole absent before 1949. Land reform in Egypt included a large element of conversion from tenancy to ownership, and the same is even more true of the recent reform in Iran.

Conversion from tenancy to ownership implies increased distributive equity inasmuch as the dispossessed large-scale owners no longer control such a large portion of all landed wealth; if compensated, they must now make their money work in other enterprises, not as automatically remunerative as the passive business of landowning. Peasant farmers are granted access to landed wealth; even if they have to pay for the land on some installment plan, the path of saving is much facilitated by the terms of payment, sometimes also by the character of forced saving that may have been introduced.

An advantage of such conversion is simplicity: operational holdings are not broken up, local communities are not thrown into turmoil. A disadvantage is that distributive equity is not always improved as radically as might be envisaged. Farms in Japan, Korea and Taiwan are all family-sized, but within the framework of very small farm sizes, distributive equity is not very high - reflecting, as it does, inequalities existing between tenant farmers before the reform. In Japan the consequence was soon alleviated by the increasing access of farm people to supplementary employment off their farms, but such is less evident in the poorer countries. In Iran, land reform was mainly to the advantage of the farm-operator population, while the landless farmhands were left without - sometimes, in effect, worse off than before.

Conversion of tenants to owners supposes vigorous economic development to follow. If subsequent development is slow, peasant indebtedness may lead to

attrition of peasant ownership and renewed concentration of property in fewer hands. The complaint was voiced in Ireland, earlier in this century, that land reform would have to be repeated once in the lifetime of each generation. The incomplete land reform in India in the 1960s also left the peasantry with no protection against the superior economic power of the wealthy classes in the rural areas.

b. Size-of-farm change: break-up of large estates.

The dismemberment of large estates operated as large holdings has always aroused more controversy than the conversion of tenant farmers to owners. Since the early Marxians, the notion has been hard to dispose of that size of operation in agriculture is tantamount to efficiency. In a very recent American news telecast about Chile, a reporter blamed current food shortages on the break-up of the large estates which he referred to as more efficient than the new forms of management in the country's farms. Apparently, he had never heard of the extremely low productivity performance of Chile's large estates in the recent past.

The dissolution or reduction in size of large estates in northern Yugoslavia in the 1920s was attended by raging controversy, as was the attempt at radical land reform in Hungary at about the same time. The arguments were mainly spurious, as was most of the criticism of land reform measures directed against large private holdings in Mexico and Bolivia.

Regardless of the merits of large centrally operated estates, breaking them up into family-scale peasant holdings sometimes presents more technical problems than the mere conversion of tenant farms into owner farms. A new physical layout has to be created, which may be hampered by existing networks of irrigation and drainage channels and field roads. Large buildings and other fixed installations, serving crop storage, animal husbandry, produce processing, etc. also

present problems for rational utilization. Generally, the breakup of an estate is the more problematic, the more capitalized it is.

Where there are no structural obstacles, and at low levels of capitalization generally, the difficulties of switching to peasant-scale production should not be insurmountable. In point of fact, many estates which are officially designated as being under central operation are in reality complexes of sharecropper holdings. Converting these to owner-operated farms (or tenant farms under stable, long-term tenancy) is not altogether simple since usually there are no fixed arrangements for the identity of a holding from one year to the next. At the same time, the subdivision of such an estate into even-sized holdings should be easier than is true when the estate already is subdivided into uneven-sized tenant farms of more permanent character. Many old-style estates, in Latin America and elsewhere, are poorly run in general or have become run-down in modern time; with low capitalization levels, there is not much that can be damaged by a dismemberment into peasant farms.

In some countries, allowance was made for well-run individual estates which were made exempt from land reform measures - thus in Italy and Spain. Implicitly, the same motive is acknowledged in Kenya, where the break-up of "white highlands" estates was halted or slowed down in favor of more remunerative measures of agrarian improvements in native villages.

In other cases, it is attempted to salvage large-scale features in the old estates by recommending or imposing collective farming - thus in Algeria and Chile and, more on the blueprint stage, in Iran. In such cases, unrealistic ideas about returns to scale, and collectivistic ideology, are brought in to strengthen the original argument which alone by itself might not be sufficiently convincing as a motive for drastic measures.

c. Unconventional tenure changes: ejido, entailed ownership.

When fee simple ownership often led to disappointment because it left new small-scale landowners unduly vulnerable to indebtedness and foreclosure, it is logical to look for other ways of rendering the land more secure to the tiller. In western Europe in recent time, the tendency has been to modify the terms of tenure for tenant farmers. Beginning with the British acts of the 1970s and later, and culminating in the French post-war laws, European tenant farmers have been granted substantial security in retaining their holdings. In the French case, talk has been about a split ownership - a propriété culturale - where increased real-estate value created by the tenant's improvements are in fact his property, as under some joint-tenancy arrangement. Unfortunately, the same laws that were aimed at rendering tenants more secure also invited evasion and in many situations caused a landlord to get rid of a tenant he might otherwise have kept, merely for the purpose of regaining full control of his property.

Some land reform schemes have attempted to tread a middle ground between free and entailed ownership by making land-reform farms unsalable until they have been fully amortized, or within some specified period of years. Features of this kind are present in the reform measures in Italy and Spain, and in Chile in the earlier (Demo-Christian) reform phase.

A more radical approach to the same problem is embodied in the Mexican ejido institution. It may have been founded on nativist notions on indigenously rooted institutions as being in some sense superior; whatever the original motive, the actual consequences are of considerable interest. Land is owned by the village community. It is inalienable, can neither be sold nor mortgaged, either by the community or by individuals holding usage rights, nor can it be legally leased.

The land is given to villagers to use, either collectively if they so agree between themselves, or (as is the rule in the vast majority of ejido's) through individual families using separate land allotments much as if they were private property. The prohibitions against sale and mortgage are upheld, violations would be self-defeating as the community would not stand for anything of the sort and transactions could not be enforced. The prohibition against renting is reported to be violated with great frequency, but the leases are perforce short-term. Since the right to receive rent can not be taken away, and the land always reverts to its holder within the ejido after each lease period, the ejido member can not become entirely destitute. A social-security feature is thus maintained. It was expected by many outside analysts that the absence of real-estate credit would hamper productivity development in ejido agriculture, but these expectations have not come true, to date at least. Apparently other arrangements may be made to replace the lacking mortgage possibilities.

It would be tempting to propose some arrangement similar to the ejido also in other land reform countries. Such a policy will however assume that the people concerned have some attachment to the idea of communal landholding, as in other areas of Latin America with large populations of tradition-bound Indians, or in large parts of tropical Africa. It does not follow that any similar institution will be successful in countries where sentiment toward land ownership is more individualistic. In a country such as India, the likelihood of success is further lessened by the caste system and the cleavage within local communities it maintains. Communal institutions require a strong feeling of communal solidarity among villagers.

d. Collectivization, cooperativization and other forms of joint services.

The collective-farm systems in Communist countries were envisaged from the start as the eventual outcome of their land reform measures. The phrase was heard several times that "We will prove to the peasants that individual enterprise is not viable". Needless to say, any such proof has been spurious and depended on the authorities deliberately stacking the cards against individual peasant farming. As pointed out earlier, for collective farming to be successful requires, as in the case of communal landholding, some measure of indigenous attachment to such a way of life.

More important than collectivization, in future land reform schemes, is the idea of joint services in credit, supplies, and marketing - the "externalities" of agriculture where returns to scale really apply in important ways. One of the merits of increased distributive equity through land reform is that cooperative ventures become more plausible when the cooperators are on a somewhat more equal footing. This will be treated more at length by others. In this connection we should only mention that the requirements of soil conservation and water use sometimes necessitate joint arrangements which must be thought out whenever a new type of rural community is created, whether by land reform or by colonization on virgin land.

Let us mention two prototypes. One is the traditional irrigation association, as in Spain and other Mediterranean countries. They are vital in all dry countries. Many of them have been founded long ago and gradually found their form through past trial and error, no doubt oftentimes more costly than any record will show. In the present fast-moving era of economic and social change, the penalties for mistakes are more obvious. How such collective constraints are organized ex novo can in fact sometimes make the difference between success and disaster, as in Iraq with its as yet unsolved crucial salinity problem.

Another type of organizational problem is in the wet tropics. Many of these countries have already had vast land resources ruined beyond repair because unorganized cultivation and deforestation rendered soils more volatile and running water more erosive. In new settlements or newly reorganized ones, ownership and usage rights must be organized in ways that respects these conditions. One of the more interesting departures toward new tenure arrangements was in the paysannat under Belgian administration in Zaïre (then Belgian Congo).^{23/} Individual rights and collective constraints and duties were blended in ways aiming at making the physical environment secure, supplying jointly those services that are supplied most economically in this way, and maintaining at the same time as much individual cultivator incentive and responsibility as possible.

These are just some examples of models of organization or modified ownership rights that may have to be contemplated. Any applied case needs imaginative empiricism.

Appendix 1. A note on disguised underemployment.

The problem of underemployment in low-income agriculture is more than the subject of a drawn-out academic dispute. The theory of land reform hinges to a large extent on this issue. If certain neo-classical critics of the theory of disguised underemployment were right, then a large part of the economic case for land reform would be invalid. This was also assumed, without much argument, by Steven Cheung in his treatise on share renting.

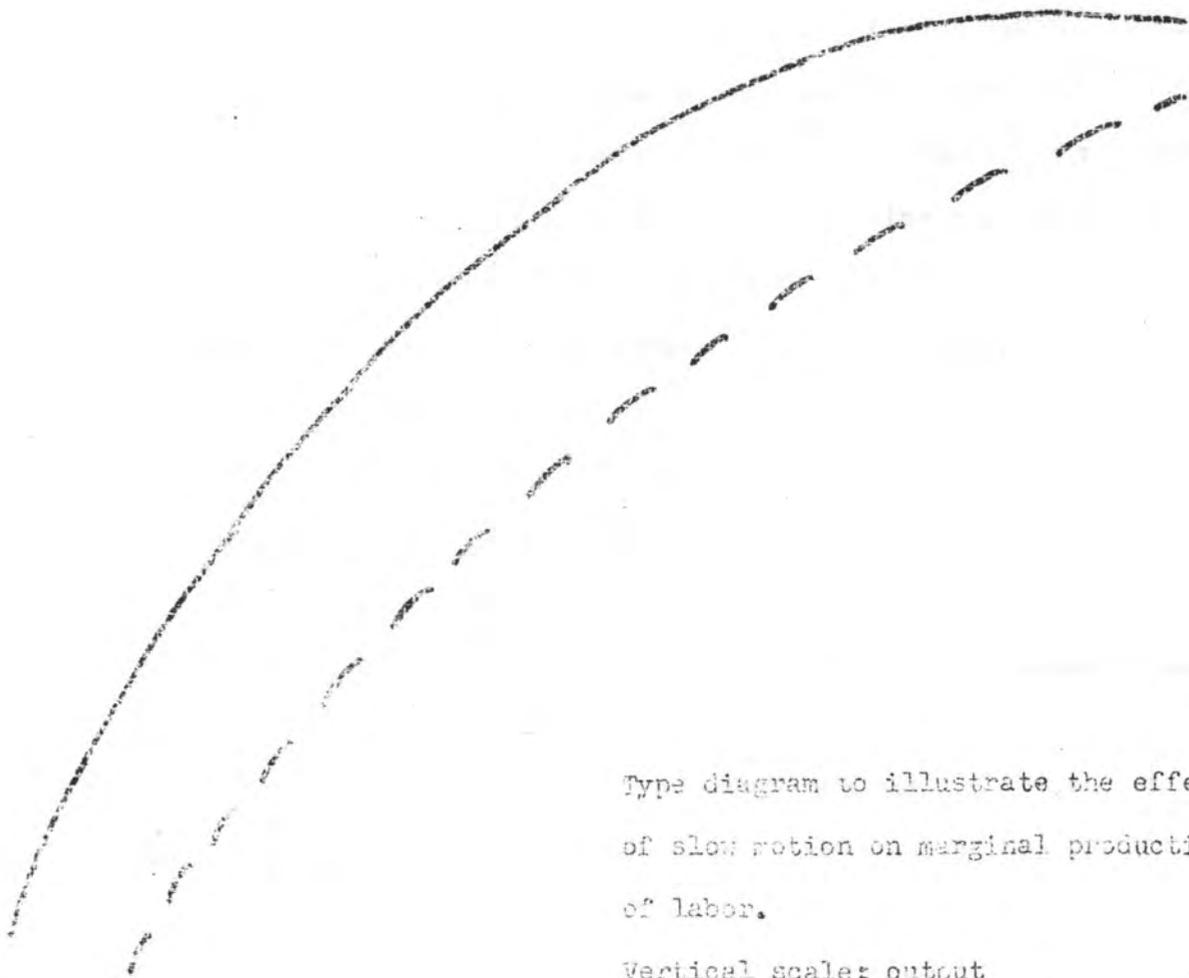
Let us first agree on terms. The unemployed have no gainful work to do; the underemployed have, although not enough. An underemployed person is one who has work to do which keeps him tied to a place of work, but not enough of it to allow him to do as much as he might if there were more to do. This condition is extremely widespread and highly frequent in all walks of life; it is an important cause of low morale in business firms where it occurs. There is no particular

reason why agriculture, either traditional or modern, should be an exception to the frequent occurrence of underemployment.

Both unemployment and underemployment may be open or disguised. Both may become disguised by makework. The classical case pinpointed by Joan Robinson from the depression, of men selling apples in the street, is the typical one of disguised unemployment - disguised through makework. The work these people took on did not need to be done at all, but served merely to spread the earnings so they might get some small income to live on - at the expense of established retail outlets.

Underemployment is frequently disguised, in addition to makework, by slow motion or over-organization. Slow motion is what most critics of the theory of disguised underemployment have overlooked: when the marginal product of agricultural labor is found to be positive, this is oftentimes only because labor is measured in time units rather than motion units. The production function for slow-motion work is lower than for strenuous work and easily shows a positive marginal product where the strenuous-work function would show zero marginal product for the same, or fewer, time units (see diagram). If the work input were specified in motion units instead of time units, the function for strenuous work and slow work would be the same.

In addition, there is frequently confusion as to the cause of seasonal unemployment in agriculture. Agriculture is seasonal in most countries, and off seasons contain less opportunity for agricultural work than do the peak seasons. But it is a mistake to think of the seasonality of agricultural work as being entirely rigid, or entirely determined by nature. The cropping systems also have an influence, and wherever agriculture really begins to suffer shortage of labor in peak seasons, this situation is met by a reorganization of the cropping system -



Type diagram to illustrate the effect
of slow motion on marginal productivity
of labor.

Vertical scale: output

Horizontal scale: time units of labor

Full-drawn line: production function of
time units spent in strenuous work.

Broken line: production function of time
units spent in slow-motion work.

by diversification which includes crops (or crop varieties) with different seasonal labor requirements. Where the seasonal peaks of labor requirement are extremely sharp, this is therefore in many cases a symptom of underemployment rather than its cause - certainly not its sole cause.

Something similar applies to factors such as fragmented land layout and settlement in large villages with long distances to outlying land parcels. These features are also symptoms more than causes of underemployment. They will be less and less tolerated by the farmers when the employment level improves. ^{23/}

Appendix 2. Review of evidence.

The amount of land resources available for agricultural production, per worker or per inhabitant, varies a great deal between countries. The differences are difficult to be precise about. Native quality of the soil varies with climate and other factors of physical geography. The potentially productive land - as yet unused or used on a very low intensity level - is often of unknown capability.

To bring a minimum of order into the discussion, Table 1 shows cropland, total population, and agricultural population in selected countries, mainly from regions with somewhat homogenous conditions. Western Asia and northern Africa are not represented because the contrasts between intensive irrigated land and extensive dryland are so striking in these regions. The table uses only data on cropland and not on grassland, because the latter category varies in quality even more than the croplands. Countries where grasslands represent a very major portion of the production potential are generally not included in the table.

The last column shows the amount of cropland per head of the agricultural population and thus gives a clue, albeit a vague and indirect one, of the average size of holding that might be possible if all agricultural families held some land. Obviously, the average size of the agricultural family also varies between countries (generally from 4 to 6 members), and so the average size of

holding, in cropland terms, might be some such multiple of the hectarage shown in Col. 6 of the table.

The figures in Col. 5 (cropland per person of the whole population) varies from country to country in a much lesser degree than is true of cropland per person of the agricultural population (Col. 6). It is a rare country where the amount of cropland per inhabitant exceeds 1 hectare. The majority of all countries have less than 1/2 hectare of cropland per inhabitant. The world's average comes to about .38 hectare (just under 1 acre).

The proportion between the figures in columns 5 and 6 from the same country reflect, of course, those between total and agricultural population. The fact that inter-country variation is so much stronger in Col. 6 than in Col. 5 highlights the importance of economic development for increasing the land base per family. Differences such as those between Japan and South Korea, or between Puerto Rico and Haiti, are eloquent testimony on this.

Virgin land resources are all but used up in most parts of Asia, Europe, and North America. They are large but difficult to measure in South America and tropical Africa, as well as in some Asian regions (the outer islands of Indonesia being perhaps the most impressive case).

For instance, the figures from the Ivory Coast appear to include all the land which is used for cropping at one time or another during the long-fallow cycle, while most other African countries only show what is used for crops in a given year. The trouble is that use of all the cultivable land at the same time will call forth severe soil destruction problems, the remedy for which may lie in technology not yet sufficiently tested or in some cases not yet even invented. Hence the true extent of "potential cropland" remains uncertain. The same may apply to many areas in tropical America as well.

Table 1. Cropland, total population, and agricultural population in selected countries.

Estimates for 1970, in the main from the F.A.O. Production Yearbook, 1971.

| 1 | 2 | 3 | 4 | 5 | 6 |
|-----------------|--------------------------|----------------------------|-----------------------------------|--|----------------------------|
| Country | Cropland 000 hectares | Total population 000 | Agricultural population 000 | Hectares of cropland per person of: | |
| | | | | Total population | Agricultural population |
| Eastern Asia | | | | | |
| China, mainland | 110,300 | 850,406 | 568,921 | .13 | .19 |
| " Taiwan | 867 | 14,520 | 6,171 | .06 | .14 |
| Japan | 5,510 | 103,540 | 21,329 | .05 | .26 |
| Korea, N. | 1,894 | 13,674 | 7,275 | .14 | .26 |
| " S. | 2,311 | 32,422 | 17,300 | .07 | .13 |
| South-east Asia | | | | | |
| Burma | 18,941 | 27,584 | 17,570 | .69 | 1.08 |
| Indonesia | 18,000 | 119,913 | 83,230 | .15 | .22 |
| Malaysia | 3,524 | 10,931 | 6,176 | .32 | .57 |
| Philippines | 8,977 | 38,493 | 26,752 | .23 | .34 |
| Thailand | 11,415 | 35,814 | 27,398 | .32 | .42 |
| Viet Nam, N. | 2,018 | 20,757 | 16,108 | .10 | .13 |
| " " S. | 2,918 | 18,332 | 13,620 | .16 | .21 |
| South Asia | | | | | |
| Bangladesh | 9,500 | 71,000 | 60,000 | .13 | .16 |
| India | 164,610 | 550,376 | 372,605 | .30 | .44 |
| Nepal | 2,090 | 11,040 | 10,112 | .19 | .21 |
| Pakistan | 24,000 | 60,000 | 35,000 | .40 | .69 |

Table 1, cont'd

| 1 | 2 | 3 | 4 | 5 | 6 |
|-----------------|--------|--------|--------|------|------|
| Tropical Africa | | | | | |
| Angola | 900 | 5,501 | 3,568 | .16 | .25 |
| Ghana | 2,835 | 8,832 | 4,840 | .29 | .59 |
| Ivory Coast | 8,859 | 4,916 | 3,986 | 1.80 | 2.22 |
| Nigeria | 21,795 | 76,795 | 45,423 | .32 | .48 |
| Rwanda | 704 | 3,609 | 3,277 | .20 | .21 |
| Uganda | 4,888 | 8,549 | 7,342 | .57 | .67 |
| Zaire | 7,200 | 17,493 | 13,701 | .41 | .53 |
| Central America | | | | | |
| Cuba | 3,585 | 8,407 | 2,755 | .43 | 1.30 |
| Guatemala | 1,498 | 5,180 | 3,246 | .29 | .46 |
| Haiti | 370 | 4,867 | 3,754 | .08 | .10 |
| Mexico | 23,817 | 50,670 | 23,617 | .47 | 1.01 |
| Puerto Rico | 236 | 2,784 | 387 | .09 | .61 |
| South America | | | | | |
| Argentina | 26,028 | 24,353 | 3,704 | 1.07 | 7.03 |
| Bolivia | 3,091 | 4,931 | 2,873 | .63 | 1.08 |
| Brazil | 29,760 | 93,565 | 40,869 | .32 | .73 |
| Chile | 4,632 | 9,780 | 2,484 | .47 | 1.86 |
| Colombia | 5,258 | 21,117 | 9,541 | .25 | .55 |
| Peru | 2,843 | 13,586 | 6,189 | .21 | .46 |
| Uruguay | 1,947 | 2,886 | 482 | .67 | 4.04 |
| Venezuela | 5,214 | 10,997 | 2,887 | .47 | 1.81 |

Table 1, cont'd

| 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------------|---------|---------|--------|------|-------|
| Southern Europe | | | | | |
| Italy | 14,930 | 53,667 | 9,735 | .28 | 1.53 |
| Portugal | 4,370 | 9,630 | 3,523 | .45 | 1.24 |
| Spain | 20,601 | 33,290 | 11,222 | .62 | 1.84 |
| Yugoslavia | 8,205 | 20,527 | 9,651 | .40 | .85 |
| Eastern Europe | | | | | |
| Hungary | 5,594 | 10,310 | 2,484 | .54 | 2.25 |
| Poland | 15,326 | 32,805 | 9,940 | .47 | 1.54 |
| Romania | 10,512 | 20,253 | 10,503 | .52 | 1.00 |
| U.S.S.R. | 232,809 | 242,768 | 77,322 | .96 | 3.01 |
| Western and central Europe | | | | | |
| Denmark | 2,678 | 4,921 | 595 | .54 | 4.50 |
| Germany, W. | 8,075 | 61,682 | 3,514 | .13 | 2.30 |
| " E. | 4,806 | 17,257 | 2,133 | .28 | 2.25 |
| Sweden | 3,053 | 8,046 | 754 | .38 | 4.05 |
| United Kingdom | 7,261 | 55,711 | 1,540 | .13 | 4.71 |
| North America | | | | | |
| Canada | 43,404 | 21,406 | 1,712 | 2.03 | 25.4 |
| United States | 176,440 | 205,395 | 8,216 | .86 | 21.5 |
| Australia | 44,610 | 12,552 | 1,049 | 3.55 | 42.53 |

2. Farm distribution by size.

Data on farm size distributions can easily be misleading if presented "in the raw", without appropriate geographic breakdown. The chief reason for this is that inequality in farm size reflects more than socio-economic inequality of holders: it also incorporates geographic disparities in soil quality, climate, and topography. Thus, for instance, the farm-size distribution of New Zealand would appear, at first blush, to be highly unequal - by whatever indicator, nearly as unequal as in most countries of Latin America. The reason, in the case of New Zealand, is mainly geographical, however: the proportions between family labor and hired labor on New Zealand farms, combined with the near absence of any labor surplus among the smaller farms, points to the conclusion that the country has a predominantly family-scale agriculture, structurally similar to conditions in Europe or North America.

It is characteristic that in a country such as the United States, the apparent degree of inequality is greater for the country as a whole than in any one among the geographically more homogenous states. Thus, in exponential-function terms, the median/average ratio for the United States farms is only .18, a quite low value; in states such as Wisconsin and Iowa, it climbs to .89; in Illinois, a state with some "southern" areas, .84; in the "border" states of Kentucky and Tennessee it is .69 and .67 respectively, while some deep-south states are below .65 or even below .60. As a case in contrast, we may mention Brazil. Here, the country-wide median/average ratio is also .18, but individual states do not rise much higher. The state of Rio Grande do Sul, one of the more family-farm oriented states, has an over-all median/average ratio .32, differentiated as .44 for crop farms and .19 for livestock farms. Small, homogenous zones within the state are found to vary between .20 and .70, thus still much lower than in most parts of the

United States, even though within the framework of much more specialized geographical breakdowns. The special tabulation of farm size as classified by size of cultivated area (cropland plus cultivated grassland) in Rio Grande do Sul still comes no higher than .65, despite the more homogenous basis for classification.

Such comparisons can be pursued to almost any extent; space forbids to go much further here. As an aid to the reader, a few tables from the 1960 World Census of Agriculture (F.A.O., Rome), are appended. The first of these, percent distribution of farm numbers by size (of total farm area) suffers from the limitations just alluded to; each country's data need to be read with some knowledge of the country's geographical and economic conditions. The two following tables, which relate to distribution of cropland within farm sizes, and the average cropland area within each size class, are somewhat more informative. It is conspicuous that so much of the cropland in Latin America is in the higher size classes, while the same is true of only a few countries in Asia and Africa. Even here, of course, it is necessary to have some knowledge of the geography and economy of the countries concerned, to appreciate the meaning of these various numbers.

Some further light can be shed on the farm-size distribution and its social meaning by studying the composition of the farm labor force and its composition of family workers (farm holders and unpaid members of their households) and hired workers. The figures in the World Census contributions are of uneven quality and use a variety of breakdowns, and most of them do not show these breakdowns by size of holdings. A few observations can be made with profit, however.

Among the smallest rates of hired workers in agriculture are in Japan, where they are only 1.7% of the farm work force, and South Korea, with 4.4%; in both countries, family workers are more numerous than hired workers in all

the size classes shown in the tabulations. Belgium has rather few hired workers also (4.4%), and only the size-class of 100 hectares and over has more hired than family workers - the numbers are small, at that. Bangladesh, with some 16 million farm workers enumerated in the Pakistani census, has only 7.5% of these classified as hired, and the highest size group, 25 acres and over, still has somewhat more family than hired workers in its work force of 227,000. The highest rates of hired workers are those shown in South Africa (82.6%) and South West Africa, or Namibia (74.7%). Spain returns only 17.2% of its farm work force as hired, but the hired workers prevail over family workers in all farm size groups over 50 hectares, thus on a large part of all the productive resources, indicating the family workers on the smaller holdings may be underemployed. Sri Lanka (Ceylon) has no more than 23.5% of hired workers, but these prevail strongly on farms over 25 acres, contrasting against the also very strong predominance of family workers on the smaller farms - indicating the dichotomy of plantations versus peasant farms. The situation is similar in Malaysia. Those countries in South America for which labor data are available don't show these in cross classification with farm size, thus Argentina and Paraguay. In Argentina, with 35.8 percent hired workers, there is likely to be a cleavage between rather fully-employed large farms on the Pampas and underemployed smaller peasant farms in the hilly areas to the north.

3. Ownership, farm size and land productivity.

Let us begin with farm size, which is the relatively better known of the two tenure factors, as they relate to productivity. Over-all land productivity is usually treated only in index-number form (thus by F.A.O.), but recently some hard numbers were computed for several countries to show output and value added, per hectare of agricultural area in the country and per male worker engaged in

agriculture. Results are shown in Table 2. The data are in terms of international wheat-units (wheat-ton equivalent, price-weighted output). The price weighting was done on the basis of a compromise between prices from the United States, Japan, and India.

It is easy to see that the highest land productivities are in countries where farms are very small. The farms in Taiwan, Japan, and Egypt are extremely small by any standards (1.1, 1.2 and 1.6 hectares average, respectively), those in Belgium and the Netherlands were very small by the standards of highly industrialized countries (5.9 and 8.8 hectares average, respectively, at the time the data refer to). It is equally easy to see that many countries with large farms and extensive land resources achieve only rather low levels of output per area unit. This latter part of the story is less conclusive than the former: low levels of area-unit production is of course often the simple consequence of low natural land productivity, thus in Australia, South Africa, North America and several others. This could leave also several countries in South America in uncertain judgment as to the role of nature in determining land productivity.

The ability of very small farms to achieve very high output levels cannot be reasoned away, however. The levels achieved in Japan, Taiwan and Egypt are more than a result of the absence of low-productive land. It is also adequate testimonial to the ability of very small farms to use their resources to the hilt. The conclusion is reinforced when we look at the figures for output and value product per man engaged in agriculture. Those for Taiwan are by far not the lowest on record; they are several times higher than in India and Pakistan, and noticeably higher than several others in the table. It is particularly striking

Table 2.

ESTIMATES OF LAND AND LABOUR PRODUCTIVITIES IN AGRICULTURE,
1957-62'
43 Countries. Unit: W.U.

| Countries 1 | Gross Output | | Value Added | |
|-----------------------|----------------------|-------------------|----------------------|-------------------|
| | per Hectare (Y/T) | per Male (Y/L) | per Hectare (V/T) | per Male (V/L) |
| Argentina | 0.38 | 38.7 | 0.36 | 36.6 |
| Australia | 0.09 | 110.1 | 0.07 | 87.1 |
| Austria | 2.19 | 29.4 | 1.49 | 20.0 |
| Belgium (& Luxemburg) | 5.65 | 45.7 | 3.64 | 32.9 |
| Brazil | 0.66 | 9.6 | 0.65 | 9.3 |
| Canada | 0.58 | 77.9 | 0.33 | 44.8 |
| Ceylon | 3.70 | 5.6 | 3.55 | 5.3 |
| Chile | 0.99 | 12.0 | 0.87 | 10.6 |
| China, Taiwan | 9.62 | 7.8 | 8.91 | 7.3 |
| Colombia | 0.85 | 10.4 | 0.83 | 10.2 |
| Denmark | 3.79 | 39.2 | 2.50 | 25.9 |
| Finland | 1.53 | 27.1 | 0.48 | 8.5 |
| France | 2.56 | 37.0 | 1.81 | 26.1 |
| Germany, Fed. Rep. | 3.57 | 34.4 | 1.97 | 19.0 |
| Greece | 1.22 | 10.1 | 1.07 | 8.9 |
| India | 1.12 | 2.2 | 1.11 | 2.2 |
| Ireland | 1.28 | 16.8 | 0.92 | 12.0 |
| Israel | 1.94 | 30.2 | 1.68 | 26.1 |
| Italy | 2.59 | 14.4 | 2.09 | 11.6 |
| Japan | 7.47 | 10.7 | 6.00 | 8.6 |
| Libya | 0.04 | — | 0.03 | — |
| Mauritius | 5.35 | 11.6 | 4.80 | 10.4 |
| Mexico | 0.41 | 7.7 | 0.39 | 7.4 |
| Netherlands | 7.11 | 40.6 | 5.59 | 31.9 |
| New Zealand | 1.19 | 146.8 | 0.96 | 117.9 |
| Norway | 2.90 | 29.8 | 0.89 | 9.2 |
| Pakistan | — | 2.5 | — | 2.5 |
| Paraguay | 0.98 | 5.4 | 0.97 | 5.3 |
| Peru | 0.53 | 10.0 | 0.50 | 9.4 |
| Philippines | 2.03 | 4.0 | 1.98 | 3.9 |
| Portugal | — | 8.1 | — | 7.4 |
| South Africa | 0.16 | 11.8 | 0.14 | 9.9 |
| Spain | 1.63 | 11.6 | 1.46 | 10.4 |
| Surinam | 3.93 | 15.7 | 3.61 | 14.4 |
| Sweden | 1.91 | 40.0 | 0.67 | 14.1 |
| Switzerland | 3.14 | 29.1 | 2.69 | 24.8 |
| Syria | 0.34 | 9.0 | 0.24 | 6.4 |
| Turkey | 0.62 | 7.3 | 0.55 | 7.0 |
| U.A.R. | 6.95 | 4.3 | 6.58 | 4.1 |
| U.K. | 1.94 | 41.4 | 1.18 | 25.2 |
| U.S.A. | 0.74 | 96.2 | 0.39 | 50.4 |
| Venezuela | 0.29 | 8.3 | 0.28 | 7.9 |
| Yugoslavia | 1.25 | — | 1.13 | — |

¹ Y in Table 2 and V in Table 4 are divided by T, agricultural land area including permanent meadows and pastures or by L, economically active male population in agriculture estimated as described in text.

Source: Y. Hayami and K. Inagi, "International comparisons
of agricultural productivities",
The Farm Economist (Oxford, England) 11:10, 1969.

that several countries in South America, with generous endowments of land for agriculture, still fail to much exceed, in some cases even reach, the level of labor productivity attained on Taiwan or Japan with their extremely limited physical area available for agricultural production. The comparison is not flattering to the many large farms in Latin America.

The same conclusion extends to the European countries in the table. Belgium and the Netherlands actually belong in the upper echelons of labor productivity (other than in the countries of overseas recent settlement), and they compare favorably also with the United Kingdom which has much larger farms reflecting a substantially more generous endowment of land per man in agriculture.

It is thus firmly established that agriculture may very well be organized on very small, predominantly family-scale farms and still achieve high levels of productivity both of land and of labor.

A more subtle question is that of the relative productivity of larger and smaller farms in the country. Many countries show a clear inverse relationship between farm size and land productivity. The classical case is that of Hungary in the 1930s, from which some figures are shown in Table 3.

Table 3. Hungary. Gross return on sample farms, 1929-38, and shares of the same consumed on the farm and sold, respectively. Data in pengő per kat. hold.

| Holding size, kat. hold. | Total gross return | Of which consumed on farm | Sold off farm | Percent of total | |
|-----------------------------|-----------------------|---------------------------------|------------------|------------------|------|
| | | | | Consumed | Sold |
| -10 | 248 | 109 | 139 | 44 | 56 |
| 10-20 | 193 | 76 | 117 | 39 | 61 |
| 20-30 | 174 | 70 | 104 | 40 | 60 |
| 30-40 | 146 | 59 | 87 | 40 | 60 |
| 40-50 | 141 | 55 | 86 | 39 | 61 |
| 50-100 | 134 | 36 | 98 | 27 | 73 |
| Averages | 165 | 63 | 102 | 38 | 62 |

Source: Kulin and Pataky, op. cit., (note 9), p. 111E.

In this instance, there was not even any sign of smaller holdings bringing less goods to the market; on a per-area-unit basis, they actually sold more than the larger farms, despite their relatively higher demand for on-farm consumption of own products.

A more intricate problem is that of explaining such differences, especially when they are less striking than in the Hungarian case. Reference was made above to the debate which has been going on in India (see Note 8). The objection has been that maybe smaller farms consisted of more productive land which for this reason might have been subdivided into smaller lots, while the less fertile land would perforce remain as larger tracts to be viable.

In one of the AID country studies of 1970, that of Mexico (see also Note 8), it was shown, however, that small holding could compete with the larger ones for productivity even when they had in fact lower average quality of land. The Mexican land reform left former estate owners with generously sized residual holdings, and it allowed them to pick the land they wanted to retain. Naturally, they retained the best, and so the ejido sector must be assumed to have, on average, somewhat less fertile land than the large private farms. Yet the ejido's obtain about the same yield level, even with less input of fertilizer and other external inputs, hence their productivity on comparable resources must be somewhat higher.

Ownership and the conditions of tenure are far more difficult to relate directly to productivity than is true of farm size. The figures in Table 2 include those from countries with high productivity some of which are heavily owner-operated (such as Japan, Taiwan, and Egypt), and some with large amounts of land under lease, such as Belgium and the Netherlands. Among the moderately high-productive countries, Denmark and Germany have mainly owner-operated farms while

England and France have large amounts of land under tenant farming. To lay bare any connections between tenure terms and productivity will require more detail than can be presented here; given the connections between regional farm-types, historical incidents, and tenure, this topic can only be pursued at the level of detailed analysis of individual countries.

- 1/ On the general problem of land reform ideology, see Karin Doving, "Land reform as a propaganda theme," in Doving, Land and Labor in Europe, 3 rev. ed., The Hague 1965, pp. 278-375, 473-479, 507-510.
- 2/ For details, see William C. Thiesenhusen, Chile's experiments in agrarian reform, Madison, Wis., 1966; cf. review by Folke Doving in Journal of Farm Economics, Vol. 49:2, March 1967, pp. 538-540.
- 3/ V. D. Wickizer, "The plantation system in the development of tropical economies", Journal of Farm Economics, Vol. 40:1, Feb. 1958, pp. 63-77.
- 4/ Roy N. Van Arsdall and William A. Elder, Economies of size of Illinois cash-grain and hog farms, University of Illinois College of Agriculture, Agricultural Experiment Station Bulletin 733, Urbana, Illinois, Feb. 1969.
See also "The one-man farm: How big?" The Farm Index (U.S.D.A.), Jan. 1973, pp. 4-5 (based on manuscript by Warren R. Bailey).
- 5/ Folke Doving, Productivity of labor in agricultural production, University of Illinois College of Agriculture, Agricultural Experiment Station Bulletin 726, Sept. 1967, pp. 30-33.
- 6/ Don Kanel, "Size of farm and economic development", Indian Journal of Agricultural Economics, Vol. 22, Apr-June 1967, pp. 26-44.
- 7/ Cf. Folke Doving, "Macro constraints on agricultural development in India", Indian Journal of Agricultural Economics, Vol. 27:1, Jan-March 1972.
- 8/ See, for instance, C. H. Hanumantha Rao, "Alternative explanations of the inverse relationship between farm size and output per acre in India", The Indian Economic Review, Vol. 1 (New Series) No. 2, Oct 1966, pp. 1-12, and Folke Doving, "Land reform and productivity in Mexico", Land Economics, Vol. 46:3, Aug. 1970, pp. 264-274.
- 9/ S. V. Kulin and L. V. Pataky, "The economic situation of peasant farms in

- Hungary during the period 1930 to 1938", Monthly Bulletin of Agricultural Economics and Sociology (Rome, International Institute of Agriculture, reprint from International Review of Agriculture) No. 4, April 1941.
- 10/ The argument is pursued consistently by Steven Cheung, The theory of share tenancy, Chicago 1969, who equally consistently disregards the possibility of a discrepancy between rates of return in private account and in social account.
- 11/ Thus, for instance, Stanley C. Johnson, A history of emigration from the United Kingdom to North America, 1763-1912 (London 1913), pp. 38 sqq., on cases where British landlords deliberately helped in emigration from congested areas, as a means of improving their own net income. The conversions of crop farming villages to sheep pastures in Tudor England and much later in Scotland, also meant lower use-intensity and higher rent.
- 12/ Conrad H. Hammar, "Intensity and land rent", Journal of Farm Economics, Vol. 20:4, Nov. 1938, pp. 776-791.
- 13/ Folke Doving, "Soviet farm mechanization in perspective", Slavic Review, Vol. 25:2, June 1966, pp. 287-302. Cf. also F. E. Dohrs, "Incentives in Communist agriculture: The Hungarian models", Slavic Review, Vol. 27:1, March 1968, pp. 23-38.
- 14/ Margaret Digby, Co-operatives and land use, Rome (F.A.O. Agricultural Development Paper No. 61) 1967, pp. 7-14.
- 15/ The case for labor intensity is made forcefully in Peter Dorner and Don Kanel, The Economic Case for Land Reform, AID Spring Review 1970, SR/LR/A-3, Washington, 1970, pp. 41; re-published, with some modifications as Chapter 3 of Peter Dorner (ed.), Land Reform in Latin America: Issues and Cases, Madison, Wisconsin 1971 (Land Economics Monograph Series Number 3).

- 16/ Analysis of sector proportions in employment in Folke Doving, "The share of agriculture in a growing population", Monthly Bulletin of Agricultural Economics and Statistics, (Rome, F.A.O.), Vol. 8, Aug. 1959, pp. 1-11; application to national product formation in idem, article quoted in Note 7 above.
- 17/ The basic findings are in Folke Doving, "Distribution of farm size and income: Analysis by exponential functions", in the press to be published in Land Economics (Madison, Wis.) in May, 1973.
- 18/ The correlation between the Gini ratio and the exponential parameter was computed by Ray M. Leuthold, Associate Professor of Agricultural Economics at the University of Illinois; in most data sets, an R^2 of .95 was found. The exponential-function analysis really does not contradict Pareto's main finding either; the outer tail of the exponential function and its transformed versions is sufficiently close to a straight line so that many real-world data series will easily be read as linear functions, hence Pareto's premature generalization.
- 19/ Harvey Leibenstein, Economic Backwardness and Economic Growth, New York 1960, chapter 6.
- 20/ For further elaboration on this problem, see Folke Doving and Karin Doving, The Optional Society, The Hague 1971, chapter 4.
- 21/ On the roles of small scale marketing in low-income countries, see P. T. Bauer and B. S. Yamey, "Economic progress and occupational distribution", The Economic Journal, Dec. 1951, and Victor C. Uchendu, "Some principles of haggling in peasant markets", Economic Development and Cultural Change, Vol. 15:1, 1966, pp. 10-20.

- 22/ For references on the paysannat in Zaire (formerly Belgian Congo), see Bibliography on land tenure, Rome (F.A.O.) 1955, p. 70, Supplement 1959, p. 71, and the new Bibliography on land tenure, Rome (F.A.O.) 1972, pp. 83-85.
- 23/ Cf. Folke Dovring, "Underemployment in traditional agriculture," Economic Development and Cultural Change, Vol. 15:2:1, Jan. 1967, pp. 163-173.

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TABLES

SUMMARY AND RECOMMENDATIONS

1. Rural development is a growth strategy for a particular target population--the rural poor. It involves extending the benefits of development to those whose futures lie in the pursuit of a livelihood in rural areas. These include small scale farmers, tenants and the landless.
2. A strategy for rural development must be based on a recognition of three points. First, that the rate of transfer of people out of low productivity agriculture and related activities into more rewarding pursuits has been slow and, given the relative size of the modern sector in most developing countries, will continue to be slow. Second, that the mass of people in rural areas of developing countries are in varying degrees of poverty, and that this can only get worse as population expands at unprecedented rates relative to existing available resources, currently used technology, and present institutions and organizations. Third, that rural areas have labor, land and some capital which if mobilized could reduce poverty and enhance the quality of life of rural people. This implies fuller development of existing resources, including the construction of infrastructure such as roads and irrigation works, the introduction of new production technology and the creation of new institutions and modes of organization.
3. The concern of rural development with the amelioration of poverty means a clear orientation towards increasing production and raising productivity. Rural development recognizes, however, that improved food supplies and nutrition, together with basic services such as health and education, can not only directly improve the physical well-being and quality of life of the rural poor, but also indirectly enhance their productivity and their ability to contribute to the national economy. It is concerned with the modernization and monetization of rural society and with its transition from traditional isolation to integration with the national economy.
4. The objectives of rural development therefore extend beyond any particular sector. They encompass improved productivity, increased employment and thus higher incomes for target groups, as well as minimum acceptable levels of food, shelter, education and health. A national program of rural development should include a mix of activities, including projects to raise agricultural output, create new employment, improve health and education, expand communications and improve housing. Such a program might be made up of single sector or multi-sectoral projects, with components implemented concurrently or in sequence. The components and phasing must be formulated both to remove constraints and to support those forces prevailing in the target area which are favorable to development.
5. The nature and content of any rural development program or project will reflect the political, social and economic circumstances of the particular country and region. Where the scope and need for rural development are not accepted by government leaders, or where resource constraints are binding

(especially the supply of skilled manpower) initial projects may be experimental in nature or restricted in extent. Where particular needs are pressing, such as in cases of famine or disease, narrowly focused projects may be appropriate.

Target Population

6. Approximately 85 percent of the 750 million poor in the developing world ^{1/} are considered to be in absolute poverty--based on the arbitrary criterion of an annual per capita income equivalent to US\$50 or less. Three-quarters of these are in the developing countries of Asia, reflecting both the low levels of national per capita income and the relative size of the rural sector in these countries. The other 15 percent are judged to be in relative poverty--having incomes above the equivalent of US\$50, but below one-third of the national average per capita income. Most of these are located in the less-poor developing countries, a large fraction being found in Latin America.

7. Of the population in developing countries considered to be in either absolute or relative poverty, more than 80 percent are estimated to live in rural areas. Agriculture is the principal occupation for four-fifths of the rural poor. These people are found in roughly equal shares in both densely populated zones (over 300 persons per square kilometer) and sparsely populated zones (less than 150 persons per square kilometer). Thus poverty is found in the highly productive irrigated areas of Asia, as well as in the adverse conditions of the Sahel, North East Brazil, the Andean Altiplano and the dry zones of India.

8. The rural poor include small scale farmers, tenants and sharecroppers, and landless workers and their families. There are over 80 million smallholdings of less than two hectares, many of them comprising several small fragments of land, most of which generate incomes below the absolute poverty level. The tenants, sharecroppers and squatters, who represent another 30 million or more families, are often less well-off. While the largest proportion of workers in agriculture is self-employed, there is also a growing group of landless or near landless workers--especially in Asian countries. These people are dependent on seasonal work and are among the poorest of the rural community.

9. Despite high rates of rural-urban migration, the rural population is still growing at approximately two percent a year. The consequent worsening of the man/land ratio means that increases in output and income must come primarily from increased yields per acre and cultivation of higher value crops. This will require both access to suitable new technology and the capital to utilize it. This in turn implies the need for new or improved service systems to support a modern agriculture. The new seed-fertilizer-water technology for wheat, rice and maize provides the first major opportunity for extending science-based agriculture to low income, small scale producers of traditional crops. Further adaptive research and extension are required to ensure an

^{1/} The poor are defined as those with incomes per capita of US\$50 or less, plus those others with incomes per capita less than one-third of the national average.

adequate rate of technological change. Special programs are necessary to aid the rural poor to contribute more to an increase in output. These programs must include the provision of infrastructure and on-farm improvements.

10. The need for special intervention to raise rural production and incomes applies also to the provision of social and other services such as health and education. Poverty is reflected in poor nutrition, inadequate shelter and low health standards. These affect not only the quality of life but also the productivity of rural people. In particular, there is a need for nutrition and preventive health programs, including improved water supplies and sanitation. Better education is an important element in this and may also provide an opportunity for the rural young to escape from poverty. In order to remedy both quantitative and qualitative educational deficiencies, increased use of "basic education" is considered imperative.

11. Rural areas also have a smaller share of other services, such as domestic water, electricity, waste disposal and other economic infrastructure, than do urban areas. Even where these services exist, the poor are often excluded from access by reason of inadequate organization and cost. These problems indicate the need for a special effort to provide appropriate social and economic infrastructure for the rural poor, and the importance of integrating these components into rural development projects. Without a concerted effort, rural poverty will remain all-pervading.

Policy Framework

12. Experience indicates that a strong commitment to rural development at the national policy level is a requisite for an effective, broad-based impact. In many countries this is lacking. However, most governments are prepared to experiment at the project level and to examine the results of experience. This should provide the basis for some dialogue between these countries and the Bank from which a broader approach may eventually develop.

13. All too often, macro-economic policies are inconsistent with agricultural and rural development. Price policies that favor manufacturing and processing industries, and those which aim to keep food prices low in urban areas, work against rural development. In such cases subsidies on farm inputs may be justified. Fiscal policies also often militate against the rural poor, who are less well organized and less vociferous than other groups. Thus public sector spending is heavily skewed in favor of urban dwellers, and in rural areas the rich have favored treatment. Yet the poor often pay considerably more taxes in proportion to income due to indirect commodity taxes and low direct taxes. In addition there is often a reluctance to charge those benefitting from publicly-financed investments, thus widening the gap between the few who have access to such investments and those who do not. Land policy has obvious implications for the rural poor given that their incomes depend on the extent to which they control land and its output. In many instances, therefore, land reform is a necessary concomitant of a rural development program.

14. Technology policies aimed at ensuring a flow of new, field-tested technical knowledge relevant to smallholder production are essential for the success of rural development. Often the poorest areas are overlooked by such policies. There is frequently also a failure to treat the subsistence farm as a system. Where technology is available it is frequently not applied due to a lack of extension services, inadequate support services, financial constraints and limited marketing facilities. Research and demonstration on a local basis to facilitate adoption is required in all these areas.

Organization and Planning

15. Ideally, planning and implementation of rural development programs involve adequate regional planning, strong central coordination, effective local level organization and the participation of the rural people in the planning and implementation processes. Few countries have been able to come even close to this ideal. Regional planning is desirable both because rural development cuts across all sectors and because rural programs need to be framed to meet regional conditions. Such planning necessitates the collection of statistics on a regional rather than a sectoral basis, and the use of regional surveys and resource inventories. Interregional allocations of technical and financial resources must be decided in relation to resource endowments, the domestic and foreign funds available, a balance of equity and growth considerations and mutually acceptable center/local sharing arrangements. All these elements should be brought together into an internally balanced rural development plan. However, the lack of a comprehensive rural development plan should not prevent the evolution of programs on a local level.

16. Strong coordination at the center is increasingly regarded as essential to successful rural development program implementation. This is a reflection both of the political nature of many of the decisions that must be made and of the need to coordinate the activities of ministries or departments organized along sectoral lines. A special office or unit is favored, having responsibility for definition of target groups, coordination of national/regional efforts and integration of the activities of national sector agencies. It has also to ensure that all sector policies are commensurate with rural development objectives.

17. Coordination at the local level is emphasized because of the growing evidence that multi-sectoral programs can be implemented most effectively through a substantial increase in decentralization. Local control provides the flexibility needed for the proper integration and timing of activities and modification of programs in response to changing conditions. Community involvement, which is essential to a sustained development process, is greatly facilitated by local rather than centralized control. One particular advantage is that the problems of the community as perceived by its residents and those imputed by local officials tend to be less far apart and can be more easily reconciled.

18. Group arrangements such as cooperatives provide an organized basis for handling many of the problems of providing access to services for large numbers of rural people. They allow a measure of involvement through participation, but also provide a vehicle for collective negotiation of credit, input supplies and delivery of marketable surpluses. Even land management can be organized on a cooperative basis, as in Egypt. Group approaches enjoy widespread support by governments, even though their performance has been mixed. They provide an impetus to rural development that is difficult to attain in any other way. In many cases, they build on an established base of mutual aid within the rural population. A major requirement for the successful operation of cooperative groups and for regional and local government is the provision of trained manpower. Thus training facilities are needed both to prepare full-time staff and to improve the effectiveness of community leaders, school teachers, religious leaders and other agents for change.

Program Design and Implementation

19. Existing rural development projects can be classified for purposes of discussion into three approaches:

- (a) The minimum package approach, as exemplified by the Bank-supported projects in Ethiopia and Korea (seeds);
- (b) The comprehensive approach, which can be either (i) nationally integrated programs or (ii) area development and settlement schemes. Examples of nationally integrated programs are the JCRR in Taiwan and PIDER in Mexico. Area-specific projects can be either single product projects such as tea in Kenya, tobacco in Tanzania, cotton in Mali and oil palm in Malaysia, or comprehensive area projects which have more diversified crop and integrated farming systems, such as Comilla in Bangladesh, Lilongwe in Malawi and Caqueta in Colombia; and
- (c) Sector and other special programs, including rural public works, education and training and credit schemes.

20. A review of these projects reveals the many difficult issues in rural development planning and project formulation and implementation. Time and again there are problems of lack of knowledge, incomplete understanding and limited institutional, technical and financial capabilities and capacities. It is possible, however, to make a few simple affirmative propositions:

- (a) Given sound preparatory planning, leadership and the involvement of people in the local community, the small farmer can become an instrument of change to the advantage of the nation as well as of himself.

- (b) Material resource requirements for rural development need not be disproportionately large, and in many successful rural development schemes the capital cost per beneficiary has been quite low. Although low capital cost per beneficiary is not by itself a criterion of a good rural development project, low capital costs are an important element in designing projects to reach large numbers in the target groups.
- (c) Rural development schemes benefitting a mass of people can be as productive and economically attractive as schemes of a conventional kind directly benefitting far fewer people.
- (d) With well-designed programs, offering proper incentives to small farmers, development can be much more rapid than is sometimes believed, and the impact on level of living following the expansion of cash incomes from a subsistence baseline can be dramatic.
- (e) Finally, while much remains to be done, conviction of the need for a change in strategy, and commitment to specific actions and programs towards rural development, have probably never been greater in the developing countries than at the present time. This is an important bridgehead on which new understanding can be built and from which new programs can be launched.

Country Guidelines

21. The following are desirable characteristics of a framework within which to design and implement rural development programs.

- (a) Central leadership and coordination. Effective rural development planning should be given high priority. Steps towards improvement in planning capacity might include establishing a small but expert unit charged with the development of a national program of action. Such a body should provide leadership and should have a coordinating role with respect to project identification and preparation and with the monitoring of ongoing programs. Where nationally integrated rural development programs are desired, such a central unit should also be actively involved in project identification and preparation.
- (b) Decentralization and participation at local level. Provision of an institutional framework at the regional or local level and of good center-local communications and coordination, with appropriate devolution of responsibility to local bodies, are critical. There is no single model for dealing with these problems, but the importance of evolving planning and programming units in both regional/local government institutions and sectoral departments cannot be stressed too strongly. Also important is the need to involve local people in planning, decision-making and implementation.

- (c) Research. Expanded technical and economic research into small farm systems, and into crops and techniques generally appropriate for use by the small farmer, should have high priority. A second type of research which is both important and much neglected is concerned with the dynamics of traditional rural societies as they begin to enter the modern sector.
- (d) Training. An insufficiency of trained manpower is perhaps the most serious obstacle to large scale rural development efforts. An intensified training effort, particularly directed toward the needs of local level institutions, and calling for greater efforts focused on training in the local environments where people work, must also be pursued.
- (e) Intermediaries. The establishment of effective group organization, such as farmers' associations and cooperatives, should have high priority. These provide the best means of lowering the cost of delivering services and marketing output so that larger numbers can be reached.

22. Activities related to rural development planning include the following:

- (a) Identification of target groups. Identification should be in terms of category, number, location and other attributes, with detailed specification of the relationships between these categories and the proposed project actions.
- (b) Project design. Several different kinds of projects may be appropriate to reaching rural development objectives:
 - (i) some projects may emphasize specific functional services, such as minimum packages of inputs like fertilizers and seed, and phasing, so that moderate benefits can be introduced progressively, at low cost per beneficiary, in order to cover a wide cross section of the rural poor;
 - (ii) other more comprehensive projects may involve the integration of related economic and social services in order that full advantage is taken of opportunities to build better balanced and more focused efforts;
 - (iii) in some cases sectoral and other special programs may be needed to remove a binding constraint (such as an endemic disease problem) or to meet a special need (such as public works to employ the landless).

In any event, each project must contain that blend of inputs and services necessary to ensure a sustained increase in productivity on the part of the beneficiaries. Particular attention to the

appropriate balance between the directly productive and indirectly productive project elements is desirable. This balance should reflect the levels of services proposed for the sector on a national basis, the least-cost means of providing such services and restrictions on resources that can be used for this purpose.

- (c) Implementation. Items requiring specific attention include:
- (i) local level training schemes and use of locally available human resources in order to minimize demands on the rest of the economy;
 - (ii) adherence to sectoral and regional planning considerations so as to ensure that proper attention is paid to linkages between sectors and regions;
 - (iii) establishment of user charges, graduated according to ability to pay, and provision for adequate savings to be drawn from local communities so that funds are available to extend programs on a broader scale;
 - (iv) local agricultural research to provide a basis for continuing productivity gains from small scale agriculture;
 - (v) full use of existing local governmental structures, and assistance in strengthening them for greater subsequent use;
 - (vi) promotion of institutional structures which enable the beneficiaries to participate in the running of projects; and
 - (vii) use of simple monitoring and evaluation systems, both as integral parts of the project management system and as a means for feeding the lessons of experience back into the process of designing future projects.

Changes in Bank Lending

23. Bank activities in rural areas have related mainly to lending for agriculture. The Bank is now the largest single external source of funds for direct investment in agriculture in developing countries. This is a consequence of a purposeful shift in Bank policy over the past five years reflected in changes in the lending program. These include a shift in the sectoral pattern, a widening and deepening of lending and the emergence of "new style" projects. Lending for agriculture has increased from 6 percent of total Bank lending between FY48-60 to 16 percent in FY71-72 and 24 percent in FY73-74, over a period when total lending expanded several times.

24. Bank lending for agriculture was also widening over the period to include financing of storage, marketing, processing, farm credit, fisheries and forestry projects in addition to the more traditional irrigation and infrastructure projects. A concurrent deepening of lending is reflected in the fact that lending to countries with per capita GNP below US\$150 has increased from 22.5 percent of the total up to 1968 to 38.2 percent over FY69-74. There has also been an increase in the number of projects providing benefits to the rural poor. This has been achieved through "new style" projects characterized by the fact that: (a) they are designed to benefit directly large numbers of rural poor; (b) they take a comprehensive approach to small scale agriculture and may include components that are indirectly as well as directly productive; and (c) they have a sufficiently low cost per beneficiary so that they may be extended or replicated over broader areas.

25. In short, the Bank's changing philosophy on agricultural development has resulted in: (a) a larger share of total lending to agriculture, within which poverty-oriented projects are getting an increasing share; (b) an increased share of lending going to poor countries; (c) a larger number of people benefiting from Bank projects; and (d) projected net output increases well above the 5 percent target suggested in President McNamara's Nairobi speech.

The Way Ahead

26. One might ask whether an emphasis on rural development will be inconsistent with the urgent need for increased food production, which has been brought into focus by the World Food Conference in Rome, since: (a) it implies a heavy investment in the small farmer group (two hectares or less) which controls only 16 percent of the land; (b) it is sometimes more costly to provide services to large numbers of small farmers than to a smaller number of large farmers; and (c) it may conflict with a concentration of resources in areas of high potential which are not necessarily among the poorest.

27. Rural development does not necessarily mean a diversion of resources away from increasing food production since: (a) most of the rural poor are engaged in agriculture; (b) employment of the landless and near-landless on rural public works can provide them with the income to purchase food while creating productive facilities for agriculture; and (c) small farmers are often more efficient in the use of on-farm resources. In recognition of the prevailing high priority placed on food production, the Bank recognizes amelioration of poverty in rural areas and increased food production as twin goals. Its emphasis on rural lending, therefore, includes lending not only for those in the poverty target groups but also for the larger scale farmers when increases in their production are necessary to increase domestic food supplies and/or contribute to exports.

28. Assessing the requirements for achieving the 5 percent annual growth of output from small scale farmers is a complex task. It involves not only estimating the financial resources needed, but assessing the

problems of transferring technologies and the many manpower and institutional constraints. Many of these parameters are difficult to quantify and available data preclude detailed analyses. Country experience indicates that finance alone is seldom the limiting factor; frequently technology, institutional, procedural and manpower factors are more critical. Nonetheless, approximate indications of the investment needed to achieve the goal of 5 percent output growth by small farmers have been calculated by use of a simple model and by reference to recent Bank experience. These rough estimates range from US\$70 billion to over US\$100 billion--the higher figure being based upon an analysis of Bank experience with 25 "new style" rural development projects in which, on the average, 50 percent of the direct project beneficiaries were poor rural families with annual incomes of less than US\$50 per capita. However, this estimate is subject to a substantial margin of error because the 25 "new style" projects analyzed do not constitute a very secure base from which to make such projections.

29. Even the figure of US\$100 billion, or US\$10 billion a year, when taken over a five-year period, may appear relatively modest when viewed in the light of the projected US\$170 billion total investment in developing countries in 1974 alone. However, for low income countries, where the poor are concentrated, investment in 1974 will be nearer US\$25 billion so that proportionately the investment required for rural development is extremely large.

Bank Program

30. Projected Bank lending for agriculture and rural development during FY75-79 is approximately US\$7 billion for projects with total costs estimated at US\$15 billion. Assuming a lending program of this magnitude for agriculture and rural development, half would go to rural development. The total investment accounted for by these Bank projects would provide one-fifth of the annual investment needed to expand productivity of the rural poor by at least 5 percent per year during the five-year period FY75-79 (see para 3.21). The agricultural and rural development program of the Bank should reach a total rural population of some 100 million, 60 million of whom should be in the poverty target group. The numbers of rural poor are expected to increase by 70 million in the same period.

Deployment of Bank Resources

31. In order to meet the goals of rural development, attention is being given in the Bank to: (a) monitoring progress of economic, sector, and project work; (b) adjusting the project cycle, especially with respect to project preparation work; and (c) modifying the technical assistance program, including training and research.

32. The Bank regularly monitors the progress on economic, sector and project work. Recently a detailed system for monitoring of rural development projects has been introduced based on "project information briefs." These will be reported quarterly and used as a guide to further modifications to ensure the accomplishment of the Bank's objectives.

24. Bank lending for agriculture was also widening over the period to include financing of storage, marketing, processing, farm credit, fisheries and forestry projects in addition to the more traditional irrigation and infrastructure projects. A concurrent deepening of lending is reflected in the fact that lending to countries with per capita GNP below US\$150 has increased from 22.5 percent of the total up to 1968 to 38.2 percent over FY69-74. There has also been an increase in the number of projects providing benefits to the rural poor. This has been achieved through "new style" projects characterized by the fact that: (a) they are designed to benefit directly large numbers of rural poor; (b) they take a comprehensive approach to small scale agriculture and may include components that are indirectly as well as directly productive; and (c) they have a sufficiently low cost per beneficiary so that they may be extended or replicated over broader areas.

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33. The increased emphasis given to project identification in rural development suggests the need for greater attention to identification in country economic and sector work. Special reconnaissance missions may be useful for this purpose.

34. Project preparation acquires greater importance because of the number and variety of components and the special implementation needs. This creates the need for a longer lead time. Possible measures for providing assistance in preparation include expanded use of reconnaissance missions; creation of project planning units in developing countries; and special preparation projects. In recognition of the importance of "implementation" in realizing goals, particular attention should be given to planning, monitoring and evaluation systems within project organizations.

35. No significant changes are required in project appraisal procedures, but specific guidelines are necessary for assessing those components for which benefits cannot reliably be estimated. In such cases attention should be given to sectoral policy standards, minimum cost alternatives, appropriate pricing of the services, replicability and the availability of fiscal resources to maintain and carry on programs on a broader basis.

36. The kind of technical assistance required to support the proposed Bank lending program for rural development includes training to overcome manpower constraints, attention to public sector organizations and research and information gathering to provide more adequate understanding and guidelines.

Effective Steps to be Taken by the Bank

37. The Bank should encourage and, where requested, assist technically and financially those governments wishing to devise comprehensive rural development plans. Where governments do not appear interested in developing a strategy of poverty reduction in the rural areas, the Bank should seek to identify and prepare rural development projects while engaging in a dialogue on possible changes in development strategies and policies. Where governments are interested in experimental rural development programs or projects, the Bank should support them.

38. Bank economic, sector and regional planning missions should identify both the target groups in the rural areas and the key technical, policy, organizational, management and manpower constraints which inhibit the amelioration of poverty in the rural areas. Such reports should be used as vehicles for dialogue with governments with a view to removing constraints through such actions as:

- (a) special missions to identify the institutional causes of low absorptive capacities in public sectors, paying particular attention to civil service procedures and conditions of service which militate against efficiency in the planning and implementation of suitable projects and programs;

- (b) projects to provide increased training of indigenous personnel such as "corps of development managers," regional and project planners, cooperative managers and accountants; and
- (c) provision for training specialists in larger projects.

39. Within the lending program, there should be increasing effort to develop projects which:

- (a) reach large numbers in the low income groups of the rural population;
- (b) are low in cost per person reached relative to benefits;
- (c) provide a rate of economic return at least equal to the opportunity cost of capital;
- (d) provide a balance between productive and welfare components, consistent with minimum cost standards and fiscal resources;
- (e) involve local participation in decision-making; and
- (f) incorporate rural works for the landless as a part of an integrated rural development effort.

40. There should be continued experimentation with:

- (a) the design of projects and the development of low cost delivery systems for all facets of rural development (such experimentation should include the evaluation of low cost minimum packages, area development projects and public works and other special programs); and
- (b) multi-sectoral projects designed within sectoral and regional contexts rather than within a purely project context. Putting projects in these contexts provides guidelines for minimum national standards.

41. There is need for more resources to be allocated at the earlier stages of project identification, preparation, and supervision/evaluation; these should make possible some staff economies at the appraisal stage.

42. There should be greater emphasis on the ongoing evaluation of projects as part of internal management control systems; the scope of supervision missions should accordingly be broadened to include more evaluation of project impact.

43. In designing rural development projects, account should be taken of the possibility of including family planning elements where desirable.

I. THE NATURE AND EXTENT OF THE PROBLEM

A. Toward an Operational Strategy

1.1 The objectives of development include sustained increases in per capita output and incomes, expansion of gainful employment and greater equity in the distribution of the benefits from growth. This implies alleviation of poverty and human misery by increasing the productivity of the poor and providing them greater access to goods and services. A high proportion of the poor live in rural areas. Rural development must constitute a major part of an overall development strategy if a large segment of those in greatest need are to benefit.

1.2 Past strategies in most developing countries have tended to emphasize economic growth without specific consideration of the manner in which the gains from growth were to be distributed. The assumption has been that increased growth per se would lead to a reduction in poverty through the spread effects from an expanding economy. Accordingly, the emphasis has been on increasing growth, with a corresponding concentration of effort on the "high growth", modern sectors of the economy to the virtual exclusion of the traditional sector--where the smallholders, tenants and landless make up the bulk of the rural poor. Although, in the long-run, economic development for the growing rural population will be dependent on expansion of the modern sector and on non-agricultural pursuits, too strong an emphasis on the modern sector alone neglects the growth potential of the rural areas. Failure to recognize and act on this has been a major cause of slow rural growth rates and increasing rural poverty. At the other extreme, a few governments preoccupied with promoting social equity in the rural areas may have discouraged investment in growth to the point of economic stagnation. With rapidly growing populations, per capita incomes in the rural areas have declined even though the range of distribution of incomes is much narrower now than it has been.

1.3 A strategy for rural development with the objectives of raising growth rates and distributing the fruits of growth more fairly implies a growing interaction between the modern and traditional sectors, especially with regard to increased trade both in farm produce and in technical inputs and services. While the main thrust of this paper is concerned with direct ways and means of tackling problems of rural poverty--because of its relative neglect in the past--other methods are also required to deal with rural poverty in all its dimensions. For this reason modern sector and macro-economic policies are important, and the Bank should continue to devote part of its resources to helping the rural poor, indirectly, through projects designed to increase output, exports and growth generally.

1.4 The central concept of rural development presented here is of a process through which rural poverty is alleviated by sustained increases in the productivity and incomes of low income rural workers and households. The emphasis is on raising output and incomes rather than simply redistributing current income and existing assets although the latter may be desirable or

even required in an overall rural development strategy. Operationally this concept of rural development which links production with distributive or equitable objectives requires the specification of target groups among the rural poor whose conditions can be assessed, for whom specific production and income raising measures can be designed, and to whom a resulting flow of benefits--direct and indirect--is both identifiable and potentially measurable. 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. Target groups identified by low incomes, absolute or relative, include smallholders, tenants and the landless; each separate group may need a special program of its own to handle the specific problems it faces.

1.5 The operational goals of rural development extend beyond any particular sector: they include improved productivity, and thus higher incomes for the target groups, as well as minimum acceptable levels of food, shelter, education and health services. Fulfillment of these objectives calls for an expansion of goods and services available to the rural poor and institutions and policies that will enable them to benefit fully from the whole range of economic and social services. In order that this development be self-sustaining, special concern is attached to the participation of target group members in the organization of the program.

1.6 A program of rural development must, therefore, embrace a wide range and mix of activities, including projects to raise agricultural output, to improve health and education, to expand communications and to improve housing. The mix of activities will vary with the requirements of a region and the priorities assigned to components within a program at particular times and stages of development. The program may be based on a series of sequential projects--first health, then education, then agricultural development; or it may attempt a broad-based, multi-sectoral approach whereby a series of activities are to be undertaken almost simultaneously. In all cases the constituent elements should be complementary and reinforcing.

1.7 Most of the low income groups in the rural areas depend heavily on agriculture for their livelihood. It follows that many of the programs intended to raise rural incomes must center on agricultural development. For the landless who are among the lowest income groups public works programs that generate employment in the rural areas can be an important element in rural development programs. The same applies to health and education, when these services focus on the rural poor. In these instances, however, the effect of the programs may be to increase the capacity of the poor to become more productive rather than to increase output and incomes directly.

1.8 Approaches to rural development will also be influenced by country circumstances. Countries with surplus revenues--such as the oil and mineral rich nations--may be in a position to invest heavily in social overhead as well as in directly productive activities. Where economic dualism prevails, a rural development program may be an effective means of both redistributing income and expanding output through increasing the share of the budget allocated for services to low income groups. Elsewhere economic circumstances may dictate that the primary emphasis be on increasing short-run output to generate increased income--which can then be the basis for increased savings and further investment in development. The nature and content or mix of activities in any rural development program will vary depending on the political, social and economic circumstances that prevail in given countries or regions. There is no universal formula that prescribes the activity mix or the most effective sequence of activities to raise the incomes of the rural poor.

1.9 In conclusion, rural development programs (or projects) are intended to provide a sustained increase in the output and level of living of a significant proportion of the rural poor in a given area. In some instances this may require emphasis on indirectly productive operations, but, in the main, the focus is on those activities that either raise incomes directly or, at a minimum, provide the potential to be more productive. The implementation of such a strategy requires adequate trained manpower and efficient institutions which can prepare, plan and execute programs to assist the rural poor to become more productive. The strategy is one which in reaching the large numbers of the rural poor must involve their participation in its design and operation.

B. The Measurement of Rural Poverty

(i) The Extent of Rural Poverty

1.10 There is no uniquely correct way of measuring the extent of poverty or of rural poverty. In President McNamara's Nairobi Speech, emphasis was given to programs for increasing the productivity of "that approximately 40 percent of the population of our developing member countries who have neither been able to contribute significantly to national economic growth, nor to share equitably in economic progress". Our illustrative calculations build from this baseline, taking into account absolute poverty--defined by income levels below which minimum adequate standards of nutrition, shelter and personal amenities cannot be maintained, and relative poverty-- reflecting extreme differences in levels of living between the top and bottom strata of a developing society. The latter often afflicts countries higher on the income scale to a greater extent than it does the poorer countries.

1.11 The extent and regional concentration of absolute poverty can be illustrated by adopting an arbitrary standard that a person is in absolute

poverty when he or she has an annual income equivalent to US\$50 or less. ^{1/}
On this basis, an analysis of all developing countries with populations of more than one million reveals that:

- (a) Approximately 85 percent of all absolute poverty is in the rural areas;
- (b) in total there are presently some 550 million people suffering from absolute poverty in the rural areas of the developing world in the mid-1970's;
- (c) about three-quarters of this total are in the developing countries of Asia with almost two-thirds of the number found in only four countries--India, Indonesia, Bangladesh and Pakistan;
- (d) in contrast, the developing countries of Latin America and the Caribbean account for only about four percent of the population in absolute poverty; and
- (e) the 53 countries with per capita incomes above US\$150, taken together, account for only eight percent of absolute poverty in rural areas.

Thus, much rural poverty is a direct reflection of low levels of national per capita income and the size of the rural sector in these economies. ^{2/}

1.12 To provide a quantitative illustration of relative poverty, calculations were made of the total number of people with per capita incomes below one-third of the average per capita income of their own country. ^{3/} (See Table 2). By this standard of relative poverty:

- (a) the relatively poor make up 18 percent of the total population of developing countries (in contrast to 34 percent under the US\$50 absolute standard); but

^{1/} In 1969 prices--the year to which the original data used in these calculations refer. It would be preferable to use "household" or "family" income levels in place of the per capita measure used in this analysis, but data are lacking on the distribution of household or family incomes.

^{2/} See Tables 1 and 3; figures quoted in the text are rough projections from the 1969 estimates shown in the tables.

^{3/} A ratio which corresponds very roughly to the "poverty line" at which income supplementation through welfare payments begins in many developed countries.

- (b) a much larger fraction of the relatively poor (27 percent of the total) come from the countries of the Latin American region; by this criterion over 30 percent of the people of Latin America are poor.

1.13 If the estimates of the poor, measured by the absolute standard given, are added to the number of those whose per capita incomes exceed US\$50 but fall below one-third of the national average for the countries in which they live, then approximately 750 million or 40 percent of the total population of the developing countries must be considered to be living in absolute or relative poverty. Of this total, almost 70 percent is accounted for by the developing countries of Asia; 19 percent is accounted for by developing Africa; and 13 percent by Latin America and the Caribbean. The fraction of rural population counted as absolutely poor varies from over 40 percent in rural Asia to under 20 percent in the developing countries of Latin America and the Caribbean. Allowing for both relative and absolute poverty, however, these proportions fall between 37 and 47 percent of the rural populations of the various regions.

1.14 The data presented above indicate the geographic spread and magnitude of poverty. An estimated 600 million of the poor--or more than 80 percent of all poor--live in the rural areas. These 600 million rural poor constitute 40 percent of all the people in the rural areas. Nearly 550 million people living in the rural areas had incomes that are the equivalent of US\$50 or less.

1.15 These estimates also suggest that rural poverty is more severe and intractable in some countries than in others. The most difficult circumstances are those in which extensive rural poverty is combined with low levels of mobilizable resources. Countries in this situation include all the South Asian nations, many of the larger African countries such as Ethiopia, Sudan, Tanzania, and a few Western Hemisphere countries like Haiti and Bolivia. Rural development is the major development problem facing these nations now and for the foreseeable future. At the other end of the scale are countries with pockets of rural poverty, varying in extent and intensity, but with resources adequate to deal with the problem provided that the political commitment is made. Among this group are Iran, Argentina, Malaysia and Yugoslavia. In an intermediate category are those countries with relatively extensive rural poverty and relatively considerable resources to deal with it. This group includes oil rich Indonesia, Nigeria and Algeria, middle income countries such as Brazil, Colombia and Mexico, and moderately poor countries such as Thailand, Korea and the Philippines.

(ii) Characteristics of the Rural Poor

1.16 There is little detailed information on the levels and distribution of income within rural areas and little analysis of the anatomy of rural poverty. In most cases, however, the poor are found side by side with the prosperous. While they are sometimes restricted by a limited endowment of natural resources, they are more frequently constrained by a lack of access to technology and services, and the institutions which would sustain a higher level of productivity. In many cases entrenched vested interests operate to

ensure not only that the benefits of productive activity are distributed inequitably, but that the poor are denied access to the inputs, services and organization which would allow them to increase their productivity. Thus the socioeconomic system operating in the rural areas is often hostile to the objectives of rural development, serving to reinforce rural poverty and to frustrate upward mobility on the part of the poor. Clearly this is not always the case; for example, the isolated community, characterized by a uniformity of poverty and ignorance and with ultimate rights to land exercised by a tribal or clan council of elders, is also common. The important point is that devising effective programs calls first for a clear understanding of the system through which poverty is produced and perpetuated.

1.17 Dependence on agriculture for a livelihood. Labor force surveys in Africa and Asia show that agricultural employment is the principal occupation for 75 to 85 percent of the rural population; with the partial exception of some relatively advanced countries, and areas close to cities, almost everyone has some connection with agriculture. There is a correspondingly thin scatter of jobs in rural industry, commerce, transport and services (including educational and administrative services). Activity data for the rural poor are rare. What little there are serve to show that agriculture is even more important as a source of income for this group than for the rural population in general. A detailed evaluation of relatively commercialized and developed rural Malaysia, for example, confirms that agriculture is more significant for the poor than for others: agriculture is the principal source of livelihood for 82 percent of the poor householders, compared with only 50 percent of rural households not classified as poor. In the more remote regions of most developing countries almost every family either rears animals or raises crops as a main activity.

1.18 Importance of non-agricultural sources of income. Although agriculture provides most work and incomes in rural areas, non-agricultural activities are important supplementary sources of incomes for rural households. A lack of remunerative off-farm work opportunities during slack seasons may greatly exacerbate the poverty of those with holdings too small or too unproductive to provide an adequate livelihood. The dependence of the poorest income groups in rural areas--the landless and near-landless--on activities which may be only indirectly linked to higher levels of agricultural output is one of the fundamental reasons why rural development efforts cannot be confined simply to productivity increasing measures without explicit regard for effects on poverty target groups.

1.19 Variety of climatic and ecological conditions. The bulk of the rural poor living in absolute poverty is concentrated in fertile areas with relatively favorable climates of South and Southeast Asia where the density of population is great and where many holdings are less than one-third hectare in size with incomes limited accordingly. But poverty persists as well in sparsely populated areas where land is infertile and climate adverse as in parts of the Sahel zones of Africa, the Andean Altiplano or the dry zones of India and Pakistan. A calculation based on a country-by-country regional breakdown of both absolute and relative poverty, in fact, shows about equal shares--40 percent in each case--in the more densely populated zones

(300 or more persons per square kilometer) and in the less populated zones (150 or less persons per square kilometer). Rural development efforts to alleviate poverty obviously have to be differently shaped according to the widely differing ecological circumstances in which rural poverty occurs.

1.20 Compounding effects of national calamities. There are times-- typically after flood or drought has ruined the harvest--when virtually the entire population of a large area is seriously affected. One important example of a region where such a situation is common is the so-called "drought prone areas" of India, which cover about 600,000 square kilometers and have a population of approximately 66 million. The bulk of this population is engaged in a perennial struggle to meet subsistence needs in a generally harsh environment. Within this broad zone, drought has occurred in three or four years out of every ten--with good and bad years tending to cluster together. The succession of drought years has had severe effects on the harvest and has resulted in absolute poverty for more than 50 million people or three-quarters of the total population of the zone. A similarly extreme situation exists in the drought prone areas of North East Brazil, affecting more than 20 million people. Elsewhere severe floods (partly occasioned by typhoons) contribute to perennial poverty. Such floods occur every two or three years in Bangladesh and in parts of the Philippines, and their effect is to diminish the already low incomes that prevail in those areas.

1.21 Proportion operating small and fragmented holdings. Incomes at the farm level are determined by a host of factors that include the quantity and quality of inputs such as land, labor and water, the technology used, the prices received for outputs and the prices paid for inputs. Thus, a one hectare irrigated farm using high-yielding varieties of rice and fertilizer can generate double the income of the same hectare farmed under traditional methods; one hectare devoted to tea (at prevailing market prices) can yield an income seven times as great as when it is used for maize. The acreage required to generate the same level of income will also vary with ecological conditions. Thus the recent Kenya Agricultural Sector Survey indicated that, for rainfed agriculture, the farm size needed to produce approximately US\$40 per annum per capita increased progressively from 2.6 hectare to 6.4 hectare to 16.4 hectares according to ecological zones; between 90 and 135 hectares were needed to generate the same level of income in range areas bordering the true Sahel. But, while the use of inputs varies widely, land remains the most important factor of production determining levels of output and income; studies indicate that most of the smallholdings in Asia, Africa and Latin America are used for traditional low-yielding subsistence production. These studies also indicate that very few farms of less than two hectares of arable land, producing traditional crops, generate incomes in excess of the poverty line. According to the 1960 World Census of Agriculture, there are 80 million smallholdings of under two hectares of land. 1/

1/ IBRD Land Reform, World Bank Paper - Rural Development Series, July 1974, Table 6, Annex 1.

1.22 Tenants, sharecroppers and squatters. There are instances--especially in the more developed regions--where large holdings are leased under fixed rentals and where the farm operators have relatively high incomes. However, most renters of land, tenants and sharecroppers in the least developed countries share their output with landowners and often operate under insecure tenancies. Other things being equal, tenants' incomes will be even lower than those of the small operator-owners, and the amount of land required for an income above the poverty line is correspondingly increased. The largest numbers of low income persons in these categories are in Asia (26 million or 89 percent of the total). 1/

1.23 Landless and other rural workers. Most workers in rural areas are classified as self-employed or family workers, but the poorest farm households also derive significant proportions of their incomes from wage employment in agricultural and non-agricultural activities. There is a large and growing group of landless and near landless workers--with a heavy concentration in those Asian countries with the largest concentrations of the poor (see Table 4). Most of the landless work irregularly, often on a seasonal basis with many working only when there are peak labor requirements. Wage rates are extremely low, often less than the equivalent of 50 cents a day. Not all farm workers are so badly off; there are comparatively few plantation workers in relatively advanced countries and workers in enclaves in poorer countries whose incomes would place them above the poverty level. In the main, however, agricultural workers and the landless whose employment is governed by the seasons are among the poorest of the agricultural community.

C. The Dynamics of Rural Poverty

(1) Rural Population and Agricultural Production

1.24 Despite high rates of rural/urban migration, the rural population is now growing at approximately two percent a year. 2/ In the past, in most countries, increased rural population could be accommodated by expanding the acreage under cultivation. This may continue to happen in countries which have an ample supply of land that can be brought into production at relatively low cost, but, in the main, the opportunities for such low cost expansion have substantially diminished. With a worsening man/land ratio, increases in output and farm income must come from a widespread increase in yields per acre cultivated and from the cultivation of higher value crops.

1/ Ibid, Table 10.

2/ Except in some countries of Latin America where population growth rates are low.

1.25 It is the requirement for raising yields per acre that places the poor farmer at a disadvantage under present programs and encourages the view that poverty will increase unless there is a reorientation in development strategy in many countries. To raise the output and incomes of the bulk of the rural poor will require that they have access to a suitable technology and to the capital to utilize that technology. At present--for the reasons discussed at length in the recent Bank policy papers on Agricultural Credit ^{1/} and Land Reform--the public and private institutions that provide the goods and services to promote technological change tend to bypass the poor farmer, typically operating a holding of two hectares or less, and to ignore the needs of the landless laborer.

1.26 The new seed-fertilizer technology for wheat, rice and maize has provided the first major opportunity to spread a high-yielding technology among low income, small scale producers of traditional crops. Although considerable adaptive research and breeding is required, this technology can lead to substantial increases in output in many areas, even where population is very dense and where there are large numbers of small scale, low income producers, such as in Bangladesh and Java. However, as long as the institutions that provide the inputs for technological change continue to be biased against the small producer, it is inevitable that small scale, low income producers will become increasingly impoverished as they have to share their output among increased numbers. A special effort must be made to aid the rural poor to contribute more to an enlarged increase in output. This can be done only by special programs. These programs must include provision of infrastructure and on-farm improvements.

1.27 There are opportunities for considerably expanding employment within agriculture, particularly by increasing cropping intensities on irrigated lands, for both farmers and landless labor. But agriculture cannot absorb at ever increasing levels of productivity all of the prospective additions to the working age population in rural areas. Consequently, rural development programs have to include provision for the promotion of non-agricultural activities in rural areas and for the linkages with agricultural sectors on the one hand and the urban, industrialized sector on the other hand.

(ii) Health and Education

1.28 Health. The logic regarding special intervention to raise the agricultural incomes of the rural poor also extends to the provision of minimum standards of food, clothing, shelter, health and education. These not only improve the quality of life, but also indirectly affect human productivity. An income of less than US\$50 per capita implies inadequacies of nutrition, shelter, health standards and other components of a basic living level. As a consequence, we observe in rural areas high levels of **morbidity and mortality**--especially infant mortality; physical and mental

^{1/} See IBRD, Agricultural Credit, World Bank Paper - Rural Development Series, August 1974.

lethargy and inability to sustain hard work on a regular basis; limited ability to recognize or to respond to problems and challenges; lack of awareness, inactive and poor motivation toward improvement and learning; and, often, hostility toward outside sources of change (and sometimes toward potential achievers on the inside who threaten the cohesion of the group). Some of these reactions, particularly those more psychological than physiological, are associated as much with the deprivation of relative poverty as with those of absolute poverty. A link between rural poverty and food intake has been established for a number of countries. (See Table 5). Nutritional deficiencies affect all age groups, but the toll is greatest among the very young. In most low income countries children under five years of age, although they generally constitute less than 20 percent of the population, account for more than 60 percent of all deaths. Malnutrition is the largest single contributor to child mortality in these countries. 1/

1.29 One of the important elements reinforcing rural poverty is that those most needing medical or health care are precisely those who are too poor or too remote from any facility to obtain it. (See Table 6). Since almost everywhere 2/ the medical doctor remains the lynch-pin in the system of public health care, the absence of doctors generally means the absence of adequate medical facilities. It is estimated that more than 80 percent of the rural population is completely out of touch with official health services.

1.30 Another factor that exacerbates the health problems of the rural poor is neglect of preventive services. Approximately 70 to 80 percent of public health expenditures is usually allocated to curative services, even though it is generally recognized that preventive health programs, primarily environment oriented, are critical to a successful attack on the disease problems which underlie the prevailing high rates of morbidity and mortality. Through improved water supply and sanitation, the prevalence of a whole host of diseases can be diminished.

1.31 Education. Although it may take time, access to education can well provide some chance for the rural young to escape from poverty. There are, however, two important considerations which militate against the rural poor receiving satisfactory education. The first is the relative shortage of facilities and the poor quality of education in the rural areas; the second is the relatively high cost of education to the poor in terms of fees, books and other materials.

1/ For a fuller discussion of the serious effects of malnutrition see IBRD, Health Policy Paper, World Bank Report No. 554, October 17, 1974, Section C.

2/ Mainland China being the most noteworthy exception; Tanzania is also developing its rural health services with heavy emphasis on the use of medical auxiliaries rather than doctors.

1.32 There has been a significant increase in educational opportunity in rural areas, but this has been unevenly distributed and has generally lagged behind educational expansion in urban areas, particularly on the post-elementary levels of education. A comparison of UNESCO statistics for the primary level shows that the ratio of "complete" schools to the total number of schools by area is significantly less in rural than in urban areas. (See Table 7). On the basis of an intensive survey of the general situation, the judgment of one expert was that, "in a country with an overall primary school participation rate of, say 50 percent, the chances are that in some of the poorer rural areas as many as 90 percent or more of all young people (especially girls) are reaching maturity without knowing how to read or write". ^{1/} It is probable that unless the situation changes greatly, millions of children in rural areas will remain illiterate. One reason is that, despite what may be substantial public expenditures on educational facilities, charges for education, though nominal, are often well beyond the means of the rural poor. In many countries education for large numbers of rural poor children ends after two years of primary school, even where a school is available for use.

1.33 Not only are the rural areas discriminated against in the provision of education services, but the type of education often is not appropriate to the needs of rural dwellers. It is increasingly recognized that to remedy both the quantitative and qualitative deficiencies of education in rural areas more widespread use of systems of "basic education" will be required. ^{2/}

(iii) Other Services

1.34 Rural areas tend also to be provided with a lower proportion than urban areas of such other services as domestic water supply, electricity, waste disposal and other economic infrastructure. The relative scarcity of these services means that they are not available in the areas where most of the poor live; the poor simply do not have access to them. Even where such services are available, the poor tend to benefit less from them than do other groups. Even when services are subsidized, there is often a requirement of some payment toward the cost; despite the subsidy, the personal contribution may serve as an effective barrier to use by the poverty stricken.

1.35 The analysis above indicates that special efforts to provide appropriate social and economic services for the rural poor should focus on meeting the needs of the lowest income groups--the smallholders, tenants, landless--in the rural areas. To this end, not only must services be geared to rural requirements, but special pricing arrangements must be maintained so that the poor will have access to services which can assist them to break out

^{1/} P.H. Coombs (with R.C. Prosser and M. Ahmed), New Paths to Learning for Rural Children and Youth, International Council for Educational Development, October, 1973.

^{2/} See IBRD Education Sector Working Paper, World Bank Report No. 561, October 25, 1974.

of the otherwise self-reinforcing cycle of poverty. The analysis also indicates the importance of integrating economic with social services in rural development projects, for poor health and lack of education are important causes of continuing low productivity and resistance to change. 1/

1.36 The amelioration of widespread and pervasive rural poverty will require a maximum effort from both within and outside the rural sector. The thrust here is a direct attack on poverty in the rural areas, although, as has been emphasized in the Bank paper on Land Reform, an expanding non-rural sector is essential to increasing employment opportunities for the rural poor. This is especially the case in the more populous countries of Asia where man/land ratios are already unfavorable. Furthermore, other indirect measures may well be essential to the amelioration of the problem. By way of illustration, on the basis of demographic trends alone the number of rural poor could exceed that of the beneficiaries likely to be assisted under the proposed program of lending by the Bank Group for rural development. (See paragraph 3.29). The need for population control is obvious. 2/ The likely stimulus to family planning associated with a more favorable environment as higher levels of living result from rural development programs is a further reason for adopting such programs.

1/ One specific study, recently undertaken for the Bank among low income agricultural workers in Indonesia, stressed the self-reinforcing impact of poverty and a deficient diet on production. This report comments as follows:

"Once infestation or anemia occurs, the environmental, economic and nutritional factors are likely to enhance the debilitating effects of the disease resulting in a vicious circle. An anemic individual will tend to work less, and thus earn less income if he is on a piece-work or an incentive basis. This in turn pre-disposes him to a poorer nutritional status (less food), aggravating further the anemia, and increasing susceptibility to infection. Increased absenteeism and lowered productivity will therefore result, and he is trapped in a series of events in which he can neither improve his income, his nutrition nor his health."

2/ See "Population Planning - Sector Working Paper", in World Bank Operations-Sectoral Programs and Policies, Baltimore and London: The Johns Hopkins University Press, 1972, pp. 291-369. See also Population Policies and Economic Development, World Bank Report No. 481, July 12, 1974.

II. POLICIES AND PROGRAMS FOR RURAL DEVELOPMENT

2.1 National commitment to policies and programs for rural development is a recent phenomenon in many countries. In only a few has such a commitment long been reflected in national policies (for example Japan and Taiwan). In addition, there have been any number of pilot projects--Comilla in Bangladesh, Puebla in Mexico, the Special Rural Development Projects in Kenya, among others. Bank support for activities in this area is relatively new and sufficient time has not yet elapsed for proper evaluation of the more recent efforts. Also, due to the diversity of rural situations, country experiences often provide insights relevant only to particular country circumstances. At this stage, therefore, it is important to emphasize the incompleteness of our understanding relative to the complexity and scale of the problems to be tackled. Consequently, any conclusions derived remain tentative and preliminary; they are likely to be considerably modified as more is learned about the process of change in rural areas.

A. The Policy Framework

(1) Role of Government

2.2 A strong commitment to rural development policies at the national level is a requisite for an effective broad-based impact on the problems of rural poverty. In some developing countries, present policies and institutional structures are so far from favorable to rural development that a policy shift could only be attained as part of a major political change. This is a key problem in situations demanding extensive land reform; it applies even more so where government itself is dominated by special interests unsympathetic to the objectives of rural development. In most other countries, governments are prepared to experiment at the project level. However, some hold the view that rural development is technically difficult or economically unsound in terms of slower growth in output and exports. Whatever the reasons, unless more governments commit themselves firmly to devising strategies and policies to raise the standard of living of the rural poor, there will be little significant improvement in the lot of millions of people.

2.3 There are various ways in which rural development objectives can be sought once there is firm commitment. The choice among these, and the sequence in which they are taken up, will reflect social, cultural and political factors as well as narrower technical considerations. Thus far, however, while numerous rural development projects and activities with significant impact on the rural poor have been introduced, the great majority of countries still operate without fully articulated policies, programs or plans for rural development. Similarly, national policies are often inconsistent with agricultural and rural development. We now turn to a consideration of these policies.

(ii) Price Policy

2.4 It is important for rural development that the overall relationship between input and output prices within agriculture and the terms of trade between agriculture and other sectors of the economy should be such as to stimulate growth in the rural areas. Bank analysis indicates that all too often government policies discriminate against development, particularly agricultural development, in the rural areas. Designed to provide assistance to manufacturing and processing industries or to raise government revenue, such policies result in raising the costs of agricultural inputs relative to output prices, making innovation unrewarding and highly risky.

2.5 Many governments justify low prices for food on the grounds of keeping down the cost of living in urban areas, while in some cases compensating the farmer by subsidies on inputs or credit. Frequently, however, such subsidies have undesirable distorting effects upon the economy, are costly to implement and often available only to those in contact with and enjoying the confidence of the organization through which they are supplied. This typically excludes the small farmer from these advantages. In general, therefore, it is more beneficial or less costly to provide incentives by guaranteeing minimum prices than to subsidize inputs, and better to subsidize specific inputs in order to transfer specific technologies rather than to have general subsidies such as subsidized interest rates. ^{1/}

(iii) Fiscal Policy

2.6 Fiscal policies in many countries lack consistency of approach. They have tended to develop piecemeal in response both to particularly urgent revenue needs and to powerful pressure groups. As such they militate against the rural poor who are either unrepresented or inadequately represented in the councils of government. For instance, in most developing countries the distribution of public sector expenditure is heavily skewed in favor of urban dwellers; and within rural areas the relatively rich receive favored treatment. These inequalities are apparent across a broad spectrum of services.

2.7 Through high levels of indirect commodity taxation and low effective rates of income or property tax, the poor often pay considerably more in proportion to income than do the rich. In the rural areas, the failure to extract a reasonable contribution from the richer members of the community is most obvious in the case of taxes based on property ownership--especially land ownership. A properly constructed tax on agricultural land is probably most desirable to mobilize resources for public purposes, since such taxes can function without destroying incentives related to agricultural output. Yet few countries appear to have effective land taxes of any sort. Where they have there is more often than not widespread evasion through nominal transfers of parcels of land to relatives and by misclassification of land potential.

^{1/} See IBRD, Agricultural Credit, op. cit., for an analysis of interest rates.

2.8 A related and greatly significant aspect of fiscal policy is the complex of issues falling under the general heading of cost recovery. In most countries there is an inability or lack of will to impose charges on those benefiting from publicly financed investment or current services on the grounds that the poor cannot afford to pay. Seldom, however, is any attempt made to impose progressive charges which subsidize the poor by recovering proportionately more from the rich. Failure to impose adequate charges in turn severely limits the rate at which investments can be undertaken or services provided in the rural areas, even though the social and economic returns from these investments are high.

(iv) Land Policy

2.9 Land reform has obvious implications for the rural poor, for whom subsistence depends for the most part on the extent to which they control land and the output from that land. The recent Bank paper on Land Reform stressed the necessity of viewing land reform in the context of the multiple objectives of rural development. On the other hand considerable income growth can be achieved by smallholders without land reform (a) in densely populated areas where the tenancy ratio is low, the distribution of land is not excessively skewed and the private marketing system effectively reaches the small as well as the big farmers; and (b) by participating in settlement schemes in those areas where there are vast tracts of land which can be exploited productively through such settlement schemes. But where the incidence of onerous tenancy is high, the distribution of land extremely skewed, the rural oligarchy controls credit and marketing institutions, appropriating for itself the bulk of input supplies and even the income generated by rural works, land reform must precede any massive input of resources into small farms or rural works.

(v) Regional Policy

2.10 When multi-objective, multi-activity, rural development programs and projects are contemplated, including not only private agricultural and industrial activity but also government infrastructure and social service activity, the locational aspects of the units of non-farm activities require careful consideration. For whereas agricultural activity is soil-bound, there are many feasible alternative locations for non-farm activities. And economies of scale and external economies due to the interdependence of different activities, can be very significant. There are obviously problems of determining the optimal areas and populations to be serviced by a local market center, an electricity transmission station, a water supply system, a school, an extension office, a research station, a medical clinic, a feeder road, a bank or a credit cooperative.

2.11 Many of these service units are best located in towns serving the surrounding rural area rather than in every village rural settlement. Alternatively, service units with a small capacity may be located in the villages and larger units in towns and cities. As rural, regional planning spreads, it will have to be coordinated with urban regional planning. Increasing migratory movements and changes in the geographical distribution of the poor and the unemployed add urgency to the need for a coordinated provision of public services in contiguous rural and urban settlements.

2.12 Regional development policies require a careful appraisal of the growth potential of different areas. Resources to finance minimum standards of public services and infrastructure facilities should be available to all regions, particularly those least well-endowed. Of particular importance is expenditure to identify the natural resources and growth potential of every area. It is a disturbing fact that in vast areas of the developing world comprehensive scientific surveys of natural resources have not yet been completed. Many regions remain poor because their resource endowments and potentials for growth have not been properly established as a basis for investment in material and human capital.

(vi) Technology Policy

2.13 A constant flow of new, field-tested technical knowledge relevant to smallholder production is a precondition for the continuing success of most rural development programs. Many of the poor live in harsh environments where investments would produce little income growth until technological discoveries create reliable new opportunities. Major improvements in production technologies and product mixes must be evolved for arid lands, some mountain regions, areas of low quality soils where shifting cultivation is practiced, and rain forest areas. Failing this, migration may be the only solution.

2.14 Inappropriate research programs and inadequate adaptive research and extension have in many cases been a major factor in limiting the effect of programs on the incomes of poor farmers. One common problem emerging is the failure to treat the subsistence farm as a system of cultivation, requiring a comprehensive approach to on-farm technological improvement. Another problem is the lack of attention to factors especially important to the small farmer. These include risk-reducing innovations, such as better pest and weather resistant crops; more intensive research into the so-called poor man's crops, including sorghum, millet, cassava, pulses and upland rice; and better advice on simple improvements in crop husbandry and soil and fertility conservation. Also, although there has been more research on small farm equipment than is generally supposed, the efforts have not been coordinated nor the results subjected to simple production engineering for manufacture. One approach to this problem being pioneered by the International Rice Research Institute in the Philippines and other groups, involves dissemination of research results and prototype specifications for local manufacture.

(vii) Commitment, Planning and Resource Requirements

2.15 The commitment of resources to rural development and the extent to which promotion of rural development programs is reflected in national economic policy depends, both on the nature and severity of the problem and on the resources which the nation can allocate to it. As noted in Chapter I, where rural poverty is restricted to small pockets and resources are available, individual countries may follow very different policies with regard to rural development. For instance, the fifth five-year plan of Iran, covering the period 1972/73 through 1977/78, drawn up before the recent three-fold increase

in oil prices, projected investment outlays for the agricultural sector equivalent to some US\$900 million per year. The rural population of Iran is approximately 18 million. Of these, some eight million could be counted among the target group of rural poor, as defined in Chapter I. It follows that if half of the total investment outlay projected for agriculture were to be directed toward Iran's rural poor, annual investment per capita among that group could be over US\$50 per year. By contrast, in Bangladesh over 90 percent of the population lives in rural areas and at least 40 million of these rural people must be counted among the poor. A feasible investment outlay for agriculture was assessed by a recent Bank economic mission at the equivalent of approximately US\$300 million per year over the mid-1970's. Applying the same arithmetic, in Bangladesh less than US\$4 per capita is available annually to help improve the productivity of the rural poor--about one-fifteenth of the amount available in Iran. While rural poverty is far from negligible in Iran, it clearly is not the dominant development concern that it must be for Bangladesh. At the same time, the resources available to Iran for dealing with the problem allow for a much wider latitude in approach to rural poverty and permit a much faster pace of implementation. It is obvious that planning, program formulation and implementation will vary considerably from one case to the other.

B. Organization and Planning

2.16 There is a growing consensus that the effective planning and implementation of rural development programs requires the following elements:

- (a) a national plan or program of action for rural development, together with supporting national and regional policies and adequate center/local financing arrangements;
- (b) a strong organization at the national level to coordinate vertically organized, central government sectoral departments;
- (c) greater decentralization with effective machinery at the regional/local level to coordinate the sectoral activities of national departments operating in the region and regional/local departments; and
- (d) participation by the rural poor in the planning and implementation processes through local government, project advisory committees, cooperatives, and other group forms of organization.

These elements are discussed separately in the following sections.

(1) National Rural Development Programs and Plans

2.17 Few countries have developed an overall plan for rural development. It is no easy task to do this for several reasons: (a) by definition rural development cuts across all sectors; (b) rural programs, more than most other kinds, ideally should flow from national and regional planning; (c) the kinds of supportive policies discussed in the preceding section involve fundamental political considerations; and (d) the information base is poor.

2.18 Yet the advantages of a coordinated effort, focused on a national plan or program for rural development, are almost self-evident. Basic questions such as the financial, technical and administrative efforts to be allocated to the program, the areas for major concentration, the phasing and sequencing of activities, the linkages among sector programs and the developmental impacts aimed for, can seldom be addressed effectively in a piecemeal fashion. At the present time effort tends to be fragmented and dispersed because there is no clear idea of the overall size of the problem; the location, density and economic characteristics of specific target groups; or the developmental potential in the areas where rural poverty is concentrated. To obtain the benefits of planning, however, calls for great determination in the face of very real difficulties. At the level of central government, the concerns of rural development tend to cut across the conventional boundaries of department organization and responsibility. At the other extreme, regional and local planning involve acceptance of the delegation of some central authority for program design and implementation to staff in touch with local requirements and able to assess local potential. Finally, it is increasingly recognized that to create a basis for self-sustaining development in rural areas requires that local resources-- financial and human--be mobilized within a planning framework involving the active participation and assistance of local people. Local self-reliance implies involvement, as distinct from simply reaching the low income rural population through development programs. This, too, calls for major new efforts in the many countries where the administrative system has been highly centralized. In view of the difficulties, partial planning, for particular areas or regions, may be more realistic and effective in some circumstances.

(ii) Coordination at the Center

2.19 There is some experience--although no consensus--emerging on approaches to the organizational problems of rural development planning. There appear, for instance, to be advantages in creating a special unit or office, located directly under the president or prime minister to coordinate national planning and program development for rural development. The experience is that such units are most useful when they coordinate efforts rather than themselves undertaking the specialized work of other agencies. Coordination is particularly important with regard to: (a) national/regional efforts to overcome the current lack of data and improve the information base generally; and (b) the activities of the major sector agencies. (The success of a rural program or project initiated by one department or agency often depends on complementary actions taken by another department. Experience in any number

of countries suggests that lack of adequate preparation, including attention to those linkages, is an important cause of failure or disappointing results.) Finally, (c) there is the very important and difficult task to ensure that national and sector policies are in line with the overall objectives of rural development.

(iii) Decentralization and Coordination at the Local Level

2.20 Experience indicates that the planning and implementation of rural development activities calls for a substantial measure of decentralization in program management, involving the strengthening of local government and other development institutions. The adjustments needed vary significantly from country to country. Unless the functional aspects of rural development projects are completely delegated to some level of regional and/or local government--an unrealistic and probably undesirable situation--problems typically arise with regard to overlapping functions of central and local government departments. An institutional arrangement--perhaps through regional planning units or coordinating committees--must be found to resolve issues and, in the last resort, provide adjudication machinery. Where national investment priorities are concerned, provision has to be made to ensure that the central planning authority is brought into the picture.

2.21 The many meanings of decentralization should be clearly distinguished. Decentralization may mean decentralization of authority: (i) to formulate projects; (ii) to administer projects and run enterprises, (iii) to allocate expenditure, and (iv) to raise revenue. If three major levels of government are considered, the central or federal, the state or provincial, and the district, ^{1/} it will be seen that in large countries the responsibility for planning, budgeting and executing rural development schemes usually rests at the provincial level, and in small countries at the central level. But almost everywhere central planning agencies and ministries are playing an increasingly dominant role in directing and providing funds for rural development. In some countries special ministerial or presidential agencies have been established to plan, coordinate and accelerate the rural development activities of central as well as regional agencies.

2.22 There is now a near-unanimity about the need for a strong planning and executive machinery for rural development at the district or sub-district levels. The advantages in planning and administering development from local levels are particularly great where there is a complex, multi-sectoral mix of activities that requires proper integration and timing of activities. At the same time, local level management provides the needed flexibility to modify programs as conditions become better understood or as circumstances change. More generally, the combination of authority, responsibility and

^{1/} The exact terminology and hierarchy of course differ as between countries. But in all countries at least three levels are clearly distinguishable. The word 'district' is used here to cover all levels below the provincial.

accountability focused at the local level leads to much more active promotional efforts than otherwise. This is particularly true in the more backward and isolated regions which are generally neglected under a highly centralized system. In Mainland China, reliance on decentralized local level management is a corner-stone of the economic system. And there is a clear trend in this direction in a number of other countries - in Algeria, Tanzania, Kenya, and India for example. In general, however, (apart from use of the special project authority--often separate from the existing local authority), progress toward decentralization is still modest.

2.23 At the present time, the proportion of expenditure on development which is allocated as a result of local decisions is fairly small--perhaps in the range of 10 to 20 percent. Budget authority continues to rest with the central authority, with a major part of the funds allocated on a departmental basis. Funds which provincial authorities can allocate out of their own revenues for rural development are generally hopelessly inadequate or insignificant. Even where there is a considerable measure of local autonomy in spending, reliance on central transfers is very great. Central governments usually curtail local powers to raise additional revenue directly from local sources, although there are some arguments favoring such local resource mobilization to supplement central government allocations. For one thing, total resources for investment may be increased. For another, local contributions would strengthen the basis for local participation in program concept and design and, more generally, would increase fiscal responsibility at local level. Some countries, Indonesia for example, are experimenting successfully with schemes to increase local level contributions, in this case using a matching grant system as inducement.

(iv) Importance of Local Participation

2.24 Community involvement in the selection, design, construction and implementation of rural development programs has often been the first step in the acceptance of change leading to the adoption of new techniques of production. The manner in which early participation is to be achieved, and balanced with the need for overall guidance and control from the center, is a problem which can only be resolved within each country. There is some evidence, however, such as that at Comilla in Bangladesh, that a strengthened local authority is better able to secure effective participation than are officials answerable to far away central governments. It appears that Tanzania has gone further in its attempts to deal with these problems than have most other governments. For example, preparation of regional development budgets now begins with proposals from a system of local committees, composed of villagers and low level officials. These are then filtered through higher level district and regional committees, again composed of a mixed group of officials and party members, before presentation to the central government. Agreement must be reached at each level before final proposals are passed through to the next higher level. A somewhat similar system of decentralized planning and decision-making is practiced in Malaysia and one is being developed in Indonesia. Country experience shows that one major problem of participation is that the rural people have perceptions of needs and

possibilities for action which are generally different from those of "rational" officials. A reasonable balance in this relationship is hard to strike. At one extreme, local politicians may completely dominate local officials, with the possibility of perverse results. At the other extreme, also common, officials may make the final decisions and recommendations.

2.25 Local institutions such as farmers' associations, cooperatives, or similar organizations have obvious potential advantages with respect to a number of the problems that raise major administrative difficulties in reaching the rural poor. On one side, they provide some measure of participation through the involvement of their members. On the other, they perform intermediary functions which make it possible to provide credit to larger numbers than can be done through official agencies. Group members can be held jointly responsible for repayment of credit, for acceptance of input supplies or other produce purchased from outside and for delivery of marketed surplus to the appropriate agencies (public or private). In some systems, cultivation is arranged on a cooperative basis, in some cases with the application of more or less uniform cultivation practices to land and crops that remain the responsibility and property of the individual cultivators. Local groups and associations can thus, in principle, reduce the need for government servants or personnel of government-supported agencies to deal with the individuals and families that comprise the target groups.

2.26 Almost all governments support cooperative development for the rural areas in one form or another. An examination of the experience indicates that the performance of cooperatives has been mixed. In some, the problem has been that the skills--particularly entrepreneurial and trading skills--that are required of the managers have been underestimated. With inefficiencies and losses, the cooperative may well become a high rather than low cost purveyor of services for its members. In some places these difficulties have been considerably accentuated by active and effective opposition to the cooperative by private traders, landlords and others to whom organization among low income families is not advantageous. Sometimes such groups capture much of the benefit by working from within: for example, when membership of a cooperative is a condition for access to subsidized credit. Dishonesty among the officials has also been a major problem.

2.27 But experience with cooperatives has not been all bad, and local organization provides the participation and impetus to rural development programs that it is hard to attain in any other way. Moreover, in most societies, there is a well established informal system of mutual aid upon which to build. The work of non-government agencies furnishes some of the more successful examples in fostering cooperation, usually working outside the framework of officialdom, often in quite modest circumstances. The Bank should explore ways and means of working more closely with non-government agencies, especially where they have gained useful local experience and have experimented with pilot projects.

(v) Manpower and Institutional Constraints

2.28 The shortage of skilled staff to implement rural development programs should be a major consideration in their design. In many countries, particularly in Africa, the scarcities of skills extend through all levels: experienced and junior staff, technical and administrative. Even when the stock of trained manpower is more adequate, the number of personnel serving the rural areas is often low in comparison with urban areas. This may be due to rural development being assigned low priority or to an absolute paucity of financial resources. Typically, however, the salary scales and allowances of people working at the bottom of the development hierarchy in the rural areas are low, their status is low and their promotion prospects uncertain. In addition, the lack of amenities in rural locations deters well trained persons from staying there. Moreover, in many countries civil service practice does not respect and reward specialization. Therefore, the turnover of rural staff is very high; and officers appointed to supervise rural development are frequently generalists in the very early or the very last stages of their careers.

2.29 The remedies for this situation are obvious but seldom instituted. Staff working in the rural areas should be given better pay and allowances. Distinguished rural service should be given special recognition. Promotion prospects for specialized field staff should be improved. But competitive pay and career prospects must be regarded as complementary to the development of the motivation and commitment to service that accompany true professionalism. Manpower can often be used more effectively than it is at present. In particular, where good managers and higher level staff are scarce, lower level staff must be utilized much more effectively. The need for formally trained manpower is determined largely by the way in which the delivery of services is organized. Thus, many agricultural credit programs, following conventional forms of credit administration based on complex criteria of creditworthiness of the applicant, involve the processing of complicated forms and thus require large amounts of highly trained manpower. Modification of such procedures could free this manpower for other tasks.

2.30 If decentralization is to be effective, regional and local government, development authorities, and cooperative-type organizations must be provided with the trained manpower to fulfill obligations. The available evidence indicates that present systems of training are weak especially with regard to the handling of relationships with the local population. Recruitment must be localized to strengthen the links between development services and the community; training exercises for agricultural extension agents, health workers and cooperative staff must be relevant to the actual needs and priorities of particular local situations. More consideration also should be given to the possibility of training community opinion leaders, such as primary school teachers, religious leaders and village cooperative secretaries as agents of change. The number of people which need to be trained is so large that the only practical way is to adopt a multiplier approach by training the trainers. This could be done through the establishment of internationally financed regional training institutes. These would prepare experienced staff to return to their countries and set up courses to train development managers, regional and project planners, cooperative staff, agricultural extension agents and other specialists.

C. Implementing Rural Development

2.31 Because experience with rural development projects is limited, and conditions vary widely from one rural area to another, generalization about project design is fraught with the twin dangers of being either too specific or too trite. Nevertheless, an attempt has been made to distill some lessons of experience by examining a cross section of projects in which alleviating poverty in the rural areas was a major objective. ^{1/} In this respect it is notable that rural development schemes do not usually aim to provide benefits exclusively to the rural poor. There are several reasons for this. Often, the rural development objective is subordinate to the objective of increasing agricultural output (or marketed output). Even where this is not the case, a program aimed at providing advice or extension to the small farmer will rarely exclude the medium sized farmer, if by including him sizeable increases in output can be obtained.

2.32 Moreover, it may frequently be desirable to design a program so that all sections of a rural community benefit to some degree from it. Often this can ensure its effectiveness with respect to the target groups whose need for the program is its main justification. Involving the community implies the provision of some element of general interest. And in many countries, avoidance of opposition from powerful and influential sections of the rural community is essential if the program is not to be subverted from within. Program design must take into consideration the existing rural social system if lasting benefits for the poor are to be achieved. Thus, in cases where economic and social inequality is initially high, it is normally optimistic to expect that more than 50 percent of the project benefits can be directed toward the target groups; often the percentage will be considerably below this. But, in all cases, project design should reflect the particular needs and conditions in the particular developing country situation.

2.33 At one extreme, some countries are giving emphasis to the provision of a package of minimum requirements to as large a group as resources permit. We describe this as the minimum package approach to rural development. At the other extreme are the more comprehensive programs which include social as well as directly productive elements. Partly because of the heavy financial and human resources required by such programs, however, most experience with them relates to specific area or regional schemes (e.g., settlement schemes) rather than to nation-wide programs. We refer to this as the comprehensive approach. Finally, there are a variety of supportive programs which provide benefits to the rural poor. These usually need to be integrated with some broader effort if full potential is to be realized. A rural works-program

^{1/} Some insights are also provided on this subject by the African Rural Development Study (ARDS) carried out in the Development Economics Department. The report of this study, which examines experience with thirteen rural development programs and projects in Africa, is scheduled for publication by the Bank.

intended to help the landless laborer is one example of such an approach. A national credit scheme for smallholders would be another. Most sector-specific programs fit into this category, including those related to education, health, transport improvements, village power and water supplies for the rural poor. Such programs are described as sector or special programs in the detailed discussion. It is worth emphasizing, however, that most experience with rural development stems from various ad hoc or piece-meal approaches, and not from the application of an overall rural development plan. Thus, the classification of project activities serves mainly as a basis for organized discussion of issues, and the examples used do not necessarily reflect intention or conscious design on the part of the originators of the programs.

(1) The Minimum Package Approach

2.34 Minimum package programs aim to provide generally modest but broad-based improvements in levels of living through increased agricultural output. Special attention is given to the sequencing of operations in the light of the development needs and requirements of the target groups on one side, and financial and staffing constraints on the other. The great advantages of minimum package approaches are their promise of low-cost, extensive coverage with comparatively simple objectives and operating procedures. The importance of sequencing is also worth attention. An initial emphasis on a broad-based increase in productivity, through a minimum level of institutional development, may be the most effective way of ensuring mass participation in a subsequent more complex type of program.

2.35 An illustration of the approach in operation is the Minimum Package Program (MPP) established in Ethiopia in 1971, which is supported by IDA. Designed to cover eventually the entire agricultural population of small farmers in Ethiopia, MPP provides extension, production credit, cooperative development, and feeder roads in 10,000 farm family units or blocks. These blocks typically extend five kilometers on each side of a 75 kilometer stretch of all-weather road. Services are organized through specialized credit agencies and the Ministry of Agriculture, with no regional or local government participation. The experience of those working with the project suggests some important conditions for the success of this approach:

- (a) a first class technical package (under the soil and rainfall conditions of Ethiopia's highlands, the application of fertilizers has produced such yield increases as to convince farmers of their usefulness without much persuasion by extension staff);
- (b) an intact social structure of rural life, with certain people commanding general respect being prepared to act as model farmers without remuneration;
- (c) a land tenure system which does not discourage production above subsistence level; and

- (d) a loose system of credit supervision with satisfactory repayment rates enforced through firm and visible government credit discipline.

2.36 It follows that a different approach will be necessary where the technical package itself is not markedly superior to existing practice and where the initial requirements for raising productivity are more complex--for example, where the rural poor are stratified by access to land, farm type, skill level and occupation. This partly explains why there are few examples of this type of national program, despite its considerable advantage for countries with limited resources and massive rural poverty. Social and economic stratification in many South Asian countries, for example, would seem to preclude widespread application of the minimum package approach.

2.37 One Asian example of the minimum package approach, however, is furnished by a recent Bank seed improvement project for Korea, under which some 500,000 farmers are to be assisted with improved varieties of paddy, barley, wheat, soybeans, and potato to raise incomes by a modest but significant 10 percent over a five-year period. The program also includes both provision for research to improve the quality of seeds and a system of seed distribution through the national cooperative organization to individual farmers. Credit and extension services, provided mainly through cooperative societies (to which 90 percent of Korean farmers belong), are already adequate. Project cost, at 1973 prices, works out to less than US\$50 per family.

2.38 Under adverse conditions, provision of minimum package facilities tends to result in relatively few direct beneficiaries among the rural poor. There may, however, be favorable indirect effects stemming from minimum package programs addressed to small farmers who are not themselves sufficiently poor to be classified among the target groups on the basis of low income. For example, as small farmers become more prosperous, there is a tendency for them to make more extensive use of hired labor--drawn from the poorest groups. Expanding demands for trading and transport services also tend to improve the market for hired labor. Clearly, projects for which such indirect effects on the rural poor are a major consideration also merit special attention, particularly in otherwise unfavorable situations such as those where the poor have little or no direct access to land.

(ii) The Comprehensive Approach

(a) Coordinated National Programs

2.39 While most schemes under this category are specifically designed for a particular area, some countries have pursued concerted programs of rural development directed at a wide spectrum of the rural population. These have been characterized by careful definition of the needs and resources of the target population; detailed planning of preparation and implementation; phasing of multi-sectoral components; and extensive adjustments or complete restructuring of related institutions. Some of these programs, for example, those in Japan, Republic of China (Taiwan) and Korea, have met with notable success. In other countries, such as Pakistan and Mexico, the programs are yet in an early stage.

2.40 The success of the Taiwan experience is reflected by the fact that during the period from 1950-1970, output from the agricultural sector grew at five percent per year. In addition the greatest increases were registered on the 890,000 farms with less than one hectare of cultivated land. These represent two-thirds of all farms and one-third of the cultivated area. The farm income of this group exceeded US\$300 per capita in 1970. The Taiwanese experience is characterized by the rapid adoption of new technology by a large number of small farmers, with most of the increase coming from improved yields, derived from the use of improved inputs and the expansion of irrigation.

2.41 It is generally agreed that this success would not have been achieved without the organization of farmers into associations. Farmers are organized into a federated three tiered system of multipurpose organizations. At the base are the small agricultural units made up of several families, who are collectively represented in the 328 Township Farmers' Associations. Above these there are 20 County Associations and the apex organization. Although multipurpose, the farmers' associations have become an important source of institutional credit, and this appears to have been one of the major factors responsible for the acceleration of agricultural development. The organization of the farmers was accomplished under the aegis of an autonomous central development agency known as the Joint Commission on Rural Reconstruction (JCRR).

2.42 In contrast to the Taiwan experience, the Mexican "Integrated Rural Development Program" (PIDER) is very new and thus has no spectacular achievements to report. It is of particular interest, however, because of the detailed planning and institutional adjustments that have been made. The primary objective of the program is to provide resources and services in selected rural areas in order to increase permanent and temporary employment; raise rural living standards by introducing directly productive activities; and improve basic social infrastructure and production services. The criteria for selection of the regions chosen for the programs are that each must be economically depressed, with potential for expansion of agricultural, mining, or industrial production; must have at least one growth point for development; and it must have fairly high levels of unemployment and underemployment. This program reflects Mexican endeavors to improve the planning and implementation of systems for the distribution of investment and services. It also is indicative of efforts to decentralize budgeting and resource distribution at the state level, and to encourage local and state participation in the decision-making process.

2.43 Finally, there is one other example of a national approach which on grounds of general importance merits separate and detailed discussion--that of Mainland China. Application to other countries and regions is, however, a subject for considerable debate, but the Chinese achievement itself is no longer in question. It appears to have been based on broad acceptance of community and nation-inspired developmental goals over individualist or personal goals. Perhaps better put, the individual in China appears to satisfy personal goals and ambitions through contribution to the development of the nation and community--almost of reversal of the situation in most countries.

(b) Area Development Schemes

2.44 An emphasis on area development is common in many countries, for agricultural as well as rural development projects. Basically, arguments in its favor stem from consideration of the often complex nature of the target group situation, which calls for specific programs locally prepared and tailored to local conditions. Technical considerations related to specific requirements for agricultural improvement also tend to favor placing development schemes in an area framework. Even when the focus is on the promotion of a single product, the very nature of modern agriculture may require a large number of inputs to be put together by private or public effort: improved seed varieties or animal breeds, irrigation facilities, fertilizers and chemicals, energy and equipment, credit, extension, storage, marketing and transport services and price incentives. One type of comprehensive, limited area approach is illustrated by a variety of single product projects, such as the promotion of tea in Kenya, groundnuts or tobacco in Tanzania, cotton in Mali and Tanzania, coffee in Papua New Guinea and oil palm in Malaysia.

2.45 The special advantage of comprehensive area development projects, however, is the opportunity to focus directly on the needs of the rural poor through diversified crop and integrated farming systems. The development of these activities can then be linked with training and social services, and possibly, with rural works programs. A closer examination of some successful experiences suggests that area or regional rural development programs can encompass a great variety of objectives, organizational forms and possible responses. At one extreme, the primary objective of some of the most successful schemes is not so much to help the poor farmer or settler as to generate additional output for disposal in the marketplace. Thus, some schemes place a heavy emphasis on one or two major crops. They also provide services to growers in the form of a good technical package and credit and marketing arrangements, associated with relatively close control of farm operations and supervision of credit. Typically, such schemes operate through a well funded and staffed special authority outside the existing local civil service structure, often with little community or other direct local participation. Under such schemes arrangements may be made to mobilize resources for schools or medical facilities, and settlement may include provision of basic amenities, like water supplies. While the impact on productivity may be an important influence, these services are typically supplied in an ad hoc way, without much consideration for wider programs of development. The Gezira settlement scheme in the Sudan had many of these features. Begun in the 1920's, by 1970 it had accounted for nearly two million acres of irrigated land, directly benefiting 75,000 farm families.

2.46 Settlement schemes have a number of special advantages. They provide an opportunity to break through modes of thought and action that are often problems in traditional, closely integrated and inward-looking rural communities. They also afford an escape from communities where power is concentrated in the hands of a few large landowners who are opposed to measures designed to reduce their special status and likely to erode the low

cost labor situation. There may also be an opportunity to select well motivated settlers and, especially where new crops are involved, the package of technical advice and services made available will carry greater weight and authority than otherwise.

2.47 An example to be contrasted with Gezira, in terms of concern with community involvement and application in the very different circumstances of long established settlement, is provided by the Comilla projects (Bangladesh). This series of pilot schemes designed by the Pakistan Academy of Rural Development during the period 1958-71 demonstrated a potential for substantially raising within ten years the incomes of small farmers in a limited but fairly large area. It has also provided models for improved local organization and administration (at modest cost and with a limited number of professional staff), including training systems. Large numbers of people, many of them at village level, were trained in cooperative organization, pump irrigation, taxation, conciliation court procedures, Muslim family law and literacy. A rural public works program, growing out of Comilla, achieved an impressive record of road building and repair, canal excavation and construction of flood embankments, serving over 4.6 million acres of farmland. An irrigation program, adopted throughout the province in 1968, had by 1972-73 placed 32,900 low-lift pumps and tubewells to irrigate an estimated 1.3 million acres. The Academy was also responsible for establishing a village cooperative credit system, with emphasis on self-help through thrift among workers. Associated in part with the credit system and farmer extension services, fertilizer use quadrupled in the area mostly affected while incomes among village farmers more than doubled. Another important innovation was a system for coordinating the activities of the various government departments in a local development center (the Thana Center).

2.48 The Comilla project was fortunate in enjoying exceptionally innovative and imaginative local leadership. The degree of success achieved is particularly impressive given the limited resources available, and an environment with many unfavorable factors. A distinctive feature was the careful phasing of program development, based both on pretesting and use of experience gained under pilot or trial schemes and on the flexible evolution of program design as further knowledge and experience were gained. While such schemes can be successful, the Comilla experience illustrates the critical importance of leadership and commitment to program goals.

2.49 A model of another type is provided by the Puebla project, developed for a relatively homogenous area with some 50,000 small farmers in Mexico. The project, begun as recently as 1967, is much less authoritarian than Gezira, but much more technically agricultural in orientation than Comilla. The Puebla approach has stressed the provision of new technical packages for smallholder farmers based on local adaptive research, mostly for maize, with much of the initial work associated with identifying problems with soil, seed, disease, and cultivation practices, and training technicians to work in small farm development. The scheme also includes credit and marketing facilities. For participating farmers, the increase in maize yields (net of climatic effect) averaged 9.5 percent a year over the period 1968-72, raising farm family

incomes by approximately US\$110. Total project cost over the six-year period to 1974 was approximately US\$1 million or US\$135 per credit-receiving farmer. The Puebla project has not, however, been very successful in integrating its activities into the fabric of regular governmental services. Banks must still be prodded to lend to small farmers; and the Puebla research and extension functions are largely outside regular government channels. Organizations which articulate local farmers' opinions and concerns have not emerged and are therefore not tied into higher levels of the service system. Significantly, while the achievement is already considerable, only 25 percent of those in the maize growing area have responded to the project to date.

2.50 A final example, which combines some of the features already discussed, is the Lilongwe Land Development Program (LLDP) begun in 1967 in Malawi. It is the focal point in a large-scale area development approach to rural transformation. Presently covering an area of 1.15 million acres and with a population of 550,000, most of whom are small farmers, the program was organized as a special department of the Ministry of Agriculture. Access to the services and staff of other departments, including staff specially seconded to the program, has been a feature of LLDP. As a consequence, the program enjoys the high level of cooperation and coordination among departments that should (but often does not) flow from integration of activities in a national policy framework. The program has concerned itself with a wide variety of activities and functions, most notably with physical planning of sub-regional centers for markets and services; provision of regional infrastructure--roads, bridges, water supplies, health clinics and service buildings; consolidation of land holdings; community organizations and village committees for local participation in decision-making and planning; and credit schemes--initially, unsecured loans to individuals, but with progressive adaptation to group credit systems based on shared responsibility for repayments. Considerable importance is also given to agricultural extension and to the training of extension workers. (The program has trained all its field staff.) Program targets were set in relation to a 13-year development period, and a full assessment is difficult to make at this stage. It is anticipated that by 1980 net income per farm family in the project areas will increase 75 percent in relation to the initial situation, accompanied by roughly doubled yields of maize, smaller increases for other crops and improvements in animal husbandry.

2.51 The Lessons of Experience. There are perhaps three major potential dangers with such area development schemes:

- (a) as already mentioned, the schemes may concentrate a disproportionate share of resources in providing benefits to a group that is relatively small in relation to the overall size of the national rural target group;
- (b) the schemes tend to suffer from overly ambitious and complex program design, calling for exceptional leadership that cannot always be made available on a sustained basis; and
- (c) they may distort priorities in the allocation of resources among sectors.

2.52 Recognition of the need for quality staff and management in such schemes is often accommodated through the provision of foreign technical and financial assistance. Donor agencies have tended to favor provision of high density, high quality manpower (be it local or foreign), and often of new institutional arrangement, as a condition for launching such projects. But high powered management, with and often without foreign backing, is sometimes overly successful in appropriating a disproportionately large amount of available resources for "showpiece" or "enclave" projects. Technical feasibility and economic viability, together with weak central planning and control over resource allocation, may lead to the adoption of project objectives that are unnecessarily ambitious. Sometimes a doubling or tripling of income may be feasible and economically viable but not, in the light of overall country circumstances, an appropriate target. There is a need to look closely at schemes during the design stage to see whether a modest objective--perhaps an increase in incomes by 50 percent over a ten year period--might not enable significant economies to be made, particularly in the use of high level staff.

2.53 In some cases, however, particularly irrigation/land improvement projects, the problem lies less with the objectives than with the failure to provide the needed reforms in the structure of land holdings. Thus, a project that results in a doubling of the carrying capacity of the land may be utilized to increase the density of settlement--so providing modest benefits to a wider group of participants. The combination of land reform and land improvement--potentially an attractive approach to rural development in conditions of land scarcity--needs to be more vigorously pursued.

2.54 The comparative affluence in management and finance enjoyed under many of these projects during the implementation period often does not survive the transfer of functions to the local administrative system. First, the indigenous regional administrations may not have the capability to carry out the necessary policy and coordinating functions at the regional headquarters. This capability is critical in administering complex integrated programs when they involve activities of a number of departments and local governmental agencies, for instance, agriculture, transportation and health. Second, institutions to handle the commercial aspects of the programs, such as agricultural credit and input and output marketing, either do not exist--since the programs have handled these functions--or do not yet have the administrative capability to manage the activities on a large enough scale. Third, the local organizations and local administrative units developed under the programs may not correspond to the existing local governmental institutions, raising difficult questions related to maintenance and expansion of the various local services.

2.55 These problems cannot be resolved quickly and so are not entirely avoidable if more rapid progress is to be made. Experimentation with decentralization and with the working of new administrative structures and procedures must begin somewhere. If the improvement of the system is to await its functioning everywhere, it may not improve anywhere within an acceptable

period of time. In fact, a demonstration of the efficiency of new structures and procedures in a few pilot areas is often the only way to convince traditionalists of the feasibility, as well as the need, of improving the general system. This being said, however, greater efforts must be made to design area development schemes on the basis of realistic assessments of the quality and number of the officials and technicians likely to be made available in the long term. This approach to area development should help to foster greater concern for training activities (the importance of which was dealt with in paragraphs 2.28 to 2.30), a particular weakness of programs that rely heavily on expatriate manpower. ^{1/}

2.56 Balancing Economic and Social Components. A special aspect of the resource allocation problem in multi-sectoral activities concerns the balance of outlays between sectors. As indicated in Chapter I, projects aimed at the rural poor are likely to contain a mix of elements--directly productive components as well as social services and amenities such as health, water supplies, basic education and village electrification. In principle, the different sectoral elements need to be consistent with individual sector objectives and should conform to a logic that is internal to the project or program as a whole so that the components are mutually reinforcing. This need to conform to a well-considered and carefully structured rural development program may result in the better design of such services than would be the case under a non-integrated or sector program. Sector programs often reflect inappropriate standards and result in elaborate and costly services, poorly structured in terms of the overall priority needs of rural communities. The principle, however, is more easily stated than observed, and in practice a good deal of judgement regarding inclusion of such items is called for. If good sector programs do not exist they cannot be improvised and made to work within the context of an individual rural development project. Moreover, the indirectly productive impact of such services as better health care and environmental sanitation are inherently difficult to measure, and the base of good research studies is lacking. Such difficulties add to the importance of making sure that the social service components of a rural development project are the "least costly" among alternative methods, that they are potentially replicable over broader areas, and that the recurrent costs involved can be sustained within the limits of the fiscal resources available.

2.57 There are two other points worth making about the inclusion of social services and amenities in rural development programs. First, there is evidence that rural people rate selected social or amenity services--particularly health and access to water--very highly indeed, sometimes above productive benefits, as a quick means of improving the quality of life. Participation fostered through community involvement in the design, construction and use of such facilities may be the first step in the acceptance of proposals for change relating to production techniques and methods. Second, it is worth recalling that the allocation of resources among sectors (as among regions) is likely to reflect a balance of considerations, and economic criteria may not necessarily be the most important. Concentration of resources in more

^{1/} A conclusion that applies to most of the projects reviewed under the African Rural Development Study referred to above (page 26, fn 1).

productive areas may increase inter-regional inequality, particularly where migration from the less favored regions is not feasible. A relatively strong emphasis on inter-regional balance and equity may be justified where the poorer regions contain a heavy concentration of the rural poor (for example, in North-east Brazil) or for countries with access to an unusually generous flow of resources (like Algeria).

(iii) Sector and Special Programs

2.58 The types of activity described under this heading are usually organized on a nation-wide basis. They may or may not be tailored to meet the specific needs of the rural poor. In practical terms, it is usually impossible to confine the benefits to a particular class of beneficiaries, even were it desirable to do so. Thus, roads built under a works program are available for the benefit of all users. Schools and health facilities in rural areas can hardly turn away potential users on the grounds that they are too rich to qualify. The most important feature of these programs, however, is that they generally do not in themselves constitute a basis for self-sustaining general productivity and income increases. Rather, they are complementary to or components of programs with this objective.

2.59 Rural Public Works. Rural public works programs have been receiving increasing attention. In the off-peak seasons, substantial fractions of the landless labor and the very small farmers are idle or severely underemployed. The poverty of these groups is made worse by the near or total cessation of income during these seasons. Rural works programs can provide direct and timely income to those needing it most while creating productive infrastructure at low social opportunity costs. However, in practice, these programs have rarely developed their full potential. Opportunities for improvement exist both in the primary benefits of the program and in the secondary benefits flowing from the infrastructure created within the program. A review of past and on-going rural works programs identifies these recurring weaknesses in the design and implementation of the primary programs: (a) The portion of total program expenditures going to unskilled workers is frequently less than it might be because unnecessarily equipment intensive construction methods are used. (b) Projects may be poorly selected and designed resulting in high cost investment and low efficiency in terms of income supplements to the needy. (c) Inadequate management and supervision may produce a "make-work" character and consequent high cost structures and low morale. (d) Some programs have tended to extend into the peak demand periods for agricultural labor. (e) When "self-help" elements are included, the poor usually are required to contribute their labor with very small or no wage payments. (f) Payment in kind is administratively cumbersome and frequently very inefficient for the workers as they resell inappropriate commodities at a deep discount. (g) The appropriate blend of local initiative and decision-making with central control is difficult to achieve. (h) There is evidence of non-poor influence groups altering programs so as to increase their own benefits.

2.60 Even in the best designed and managed programs the unskilled wage share of total expenditures will not be much above one-half. Secondary income distribution effects flowing from the created assets may be substantially greater than the primary effects. And without careful integration into a progressive rural development program and without complementary public policies, the secondary effects may be very small for the poorest rural groups. The chief vehicle for secondary benefits to these groups is the induced demand for labor in productive activities which arises from the created infrastructure. Most of the opportunity for such employment growth is in more intensive land cultivation; this is also consistent with increased agricultural output which is a necessary condition for continuing benefits to the poor. The sustained expansion and intensification of productive activity will require complementary inputs and supportive policies and programs. The rate of induced employment generation may be quite sensitive to public policies such as those relating to farm mechanization and intensive cropping patterns. While the rural poor target groups gain from secondary employment, the owners of assets, especially land, typically will obtain large benefits from the created infrastructure. These benefits constitute one motivation for the political support of public works programs by non-target groups, a necessary condition for the success of these programs in most countries. However, if land ownership is highly unequal, the incidence of the secondary benefits will be similarly unequal, and the public recovery of part of the landowner's benefits should have high priority. The services of some created assets can be priced, but in many cases land and income taxes would be necessary. Some governments may be tempted to introduce public works programs as a substitute for more fundamental reforms and policies which promote sustained income growth for the rural poor. Such a course of action should be resisted because the immediate alleviation of underemployment and poverty--necessarily limited in scope and time for budgetary constraints and for the availability of suitable projects--would be offset by the inequitable distribution of the secondary benefits of the program.

2.61 The most important general conclusion is that public works need to be part of a larger employment and development strategy and used in coordination with other programs and activities if their potential is to be developed fully. Basic decisions on issues such as target groups, wage levels, location and type of projects, taxes or other recoupment of secondary benefits, and program administration would then be made in conjunction with national or regional development planning. In particular, such planning must ensure that wage goods output increases to match the higher demand for them created by any large-scale works program. Public works activities should also be coordinated with specific local development schemes. Public works, particularly because they are decentralized in implementation, provide an excellent opportunity to begin local level planning but this potential remains in general unrealized.

2.62 Education and Training. 1/ A major share of public sector outlays, with impact on the rural poor as an important justification, relate to

1/ Training is dealt with in paragraphs 2.28 to 2.30 above. See also the Education Sector Working Paper, op. cit.

education. Here attention is focused on minimum learning needs for all members of the rural society. This "basic education" ^{1/} includes functional literacy and numeracy, knowledge and skills required for earning a living, operating a household (including family health, child care, nutrition and sanitation), and civic participation. Thus defined, basic education is the lowest common educational denominator necessary to permit an acceptable rate and distribution of development.

2.63 In many countries basic education can be partly contained within the primary school system, but, major constraints on its provision to the rural poor have been time and cost. There is, therefore, considerable interest in schemes for providing non-formal and more cost-effective education and training to adults and adolescents. Many of the schemes surveyed as a part of a recent Bank-sponsored study indicated typically small scale operations promoted by a wide variety of different agencies and often not integrated into a national education system or development plan. ^{2/} The study drew particular attention to:

- (a) the need for the horizontal integration of rural education programs both with other education activities and with other development activities in the same geographic area, and vertical integration with organizations and services at higher levels to provide support and backstopping services;
- (b) the need for the decentralization of planning and management so that education activities can be effectively adapted to local needs and conditions; and
- (c) the need for greater equity to avoid widening the socio-economic gaps in rural areas. Worthy of particular note is the neglect of training for women despite acknowledgement of the importance of roles in both decision-making and farm work.

2.64 To meet the needs of rural development, primary education must be improved, particularly to reduce wastage, lower costs and raise quality. Other possibilities invite further experimentation, including adjustments with regard to age of entering school, length of cycle, size of class, simplification of curricula, use of mass media and adaptation of indigenous learning systems. A number of other actions might also be taken to spread basic education more effectively to the rural poor:

^{1/} This has been defined as the threshold level of learning required for effective participation in productive life as well as in social and political processes. See "New Paths to Learning for Rural Children and Youth," op. cit.

^{2/} P.H. Coombs with M. Ahmed, Attacking Rural Poverty: How Non-Formal Education Can Help. Prepared for the World Bank by the International Council for Educational Development. Baltimore: Johns Hopkins University Press, 1974.

- (a) schooling should be integrated with employment and development; this may be through skill training of those who have left the schools, or by means of a program such as that of Botswana where practical skill training directly related to the creation of new self-employment opportunities is given in the schools;
- (b) rural education should be functional in serving specific target groups and in meeting identified needs;
- (c) rural education programs should be designed as part of a total education delivery system; they can themselves become the focus of coordinated action through the use of multipurpose centers to serve other activities such as cooperatives and health services; this is being done in Tanzania at both district and village levels through the establishment of Rural Training Centers and Community Education Centers;
- (d) rural education projects should be integrated with other development activities and linked wherever possible to the provision of other appropriate inputs and services; this has been effectively demonstrated in a number of integrated rural development projects such as the Comilla project in Bangladesh and the PACCA project in Afghanistan; this may also be achieved through the design of functional literacy programs; and
- (e) the provision of basic education and training should be designed flexibly to make use of existing facilities and resources, and to use mobile units in order to remain replicable in terms of costs and management requirements.

2.65 Credit. Credit schemes provide illustrations of the difficulties encountered with sectoral programs. The recent paper on Agricultural Credit draws attention to a number of common deficiencies and problems with respect to lending to small farmers. ^{1/} In particular, large farmers have been the main beneficiaries of institutional credit. Commonly, 60 to 80 percent of small farmers in a given country have limited or no access to institutional credit. Moreover, the available supply of credit to all farmers is heavily skewed in favor of short term credit, and this skewness is even more pronounced in the distribution of whatever credit is available for small farmers. Although not always essential, conditions under which credit is needed and can be used effectively are characterized by:

- (a) clear opportunities for economic gain from adoption of new production technology or other improvements;

^{1/} IBRD Agricultural Credit, op. cit.

- (b) widespread recognition and acceptance of such opportunities on the part of the farmer, along with access to training in the necessary skills; and
- (c) delivery systems which provide ready and timely availability of inputs required, and market outlets for farm production.

2.66 For small farmers, it is essential to provide a comprehensive package if the potential for increased productivity is to be translated into commercial reality. There appears to be scope for the use of institutional credit to replace or augment credit from traditional sources in order to alleviate monopoly situations which cause excessively high interest rates; to overcome inelasticities in the supply of credit which become apparent when new opportunities emerge; to ease the seasonal financial problems of rural households; and, most importantly, to encourage small subsistence farmers to raise their output and enter the commercial sector. Furthermore, land reform, if pursued widely, could sharply increase the credit needs of former tenants previously supplied by landlords. In this general context several recent experiments warrant further examination, including the "passbook" scheme in Pakistan, the Cooperative Production Credit Scheme in Kenya, and the Masagana 99 program in the Philippines.

2.67 Other Sector Programs. Other specific sector programs--for example those concerned with provision of feeder roads, village electrification, water supplies, health facilities and the promotion of rural industry--may also be important means of conveying benefits to the rural poor. The major issues involved with these have been covered earlier--namely, the need to integrate such programs with both programs of rural development and particular projects, and the problem of appropriate design standards, suited to rural conditions. The latter is a serious problem for a number of these services and, in some cases pending further technical development, extension of facilities to villages will remain prohibitively expensive. One reason for neglect of the small scale system suitable for the rural areas is the convenience and lower unit cost of preparing and appraising project feasibility for larger scale undertakings better suited to the urban environment or, in the case of transport, for inter-urban connections. Here too, however, recent research indicates some promising new approaches calculated to reduce these difficulties in the future.

2.68 The promotion of rural industry in the context of rural development merits special attention. In many countries, existing village crafts are in the process of rapidly disappearing, while modernization of agriculture creates a demand for new inputs and consumer goods which largely could be produced locally. If these two trends can be combined through relevant planning and support measures, the outcome might be local modernized industrial structures geared to serving rural areas and with linkages to national industry as well. Such rural industry could provide employment, increase incomes, slow rural-urban migration, increase the supply of goods and services to farmers at lower costs and generally stimulate further rural and regional development.

2.69 Development of rural industry at an early stage of agricultural development may, in the long run, permit a more rational spatial distribution of industrial and economic activity than might otherwise occur. Much of rural industry is likely to be located in market towns, which are generally a more desirable form of urbanization than the expansion of already very large urban centers. Modernization of agriculture creates a demand which has great potential for pulling certain categories of industry into rural towns. These industries are, in general, small and their interaction with medium and large enterprises is, in the long run, essential. Consequently, some urban-based industry can be decentralized, with little or no economic sacrifice, in order to achieve better interaction and more balanced distribution of industrial activity. At the same time, with an industrial base to provide for continuing expansion and development, such regional centers can serve to attract and retain professional and technical skills that otherwise most often concentrate in the major cities.

2.70 As well as the linkages with agriculture itself, there are other important cross-sectoral requirements for rural industry. Thus, at some stage the villages must have access to electricity for productive purposes. It is equally essential to develop a capacity to design and manufacture simple producer goods appropriate for more small scale village industry. There is often still a large reservoir of potential skills--technical and entrepreneurial--in the rural areas. Without special efforts, however, to upgrade these skills, to improve tools, to diversify production, to open up markets and change the outlook of the rural artisans, this important asset of the rural communities threatens to disappear. In many circumstances, the mechanization of agriculture required small pumps and motors (up to 20 to 25 horsepower), tractor drivers, tubewell operators, tractor and small motor mechanics and people skilled in the servicing and repair of mechanical equipment. Rural homes need basic furniture and improved kitchen utensils. These and a variety of other requirements are either not fulfilled or are met from the cities. It would seem natural to upgrade the skills and organization of village blacksmiths, carpenters, shoemakers, weavers and potters, so that they could assume new manufacturing and service roles in modernizing rural communities. This kind of support should be part of an integrated plan to modernize and develop rural communities.

2.71 Thus, in the same way that agricultural extension services are considered essential for introduction of new technology and development of agriculture, industrial extension should also be seen as a necessary element in developing rural industry. Essential characteristics of such an industrial extension service are mobility and relevance to rural industries in meeting actual local demands. An important aspect of any such program must be the development and support of the existing industrial structure in order to capitalize on the base of technical and entrepreneurial skills which today exists in villages, market towns and urban centers. Development of rural industries requires a nationally supported program to provide inputs like credit, raw materials and equipment, electricity, training for technical and

managerial skills, research-development-engineering efforts, etc. Provision of such a package is, in principle, facilitated by linking efforts with a rural development program. Indeed, the general lack of rural development planning cannot be more clearly illustrated than by the weakness of current efforts to promote rural industry.

(iv) Conclusions

2.72 The variety of programs and approaches that have been examined confirms that no single package or formula is likely to be either necessary or sufficient to ensure effective rural development. On the contrary, it is evident that the activity mix most likely to work is best characterized as the one that is designed and tailored to fit a particular and probably unique set of conditions and country circumstances. A number of other general conclusions are listed below in summary form.

2.73 The experience of rural development programs and projects appears to confirm:

- (a) that it is possible to reach large numbers of the rural poor at moderate cost, with reasonable expectations of acceptable economic returns;
- (b) that the achievement of this result involves political commitment to a strategy for rural development and to the general policies necessary to support such a strategy;
- (c) that low cost delivery systems for supplying inputs on credit terms, for providing extension and marketing services, and for organizing communal activities are of crucial importance in reaching large numbers of the rural poor; greater use of special financial intermediaries, cooperatives, community groups and farmers' associations should be explored;
- (d) the importance of balancing overall, central control with decentralized regional and project planning; rural development projects require a degree of flexibility in design and in responding to the lessons of experience, but flexibility must be within the limits of national or regional minimum standards; and financial resources.
- (e) that greater efforts should be made to integrate project management into existing and, if necessary, reformed central and local government organizations and procedures;
- (f) the importance of involving the rural poor in the planning and implementation of rural development programs;

- (g) the need for increased training at the local level, particularly for development managers, regional and project planners, cooperative staff and extension agents;
- (h) the importance of making equitable and adequate provision for the recovery of costs in order to provide funds for additional rural development projects in other areas;
- (i) the importance of devising technical packages appropriate to the requirements of small farmers, based on adaptive, national research;
- (j) the need to improve knowledge of national resources and provide an improved flow of disaggregated information, as a basis for realistic national, regional and rural project planning; and
- (k) that although increases in output can be achieved using existing technology, increases in productivity will require new technology suitable for use by small farmers.

III. THE BANK'S PROGRAM FOR RURAL DEVELOPMENT

A. Past Trends

3.1 The major thrust of Bank activities in rural areas has been in lending for agricultural development. The Bank is now the largest single external source of funds for direct investment for agricultural development in the developing countries. This is the consequence of a purposeful shift of emphasis in Bank policy over the past five years. It reflects, first, a change in the Bank's perception of development and its underlying processes and, second, an awareness of the growing pressures on the agriculture and rural sectors in developing countries. In an operational context these shifts have been characterized by changes in the pattern of lending, including changes in its sectoral distribution, by a widening and deepening of the lending program and by the emergence of "new style" projects.

(i) Changing Lending Patterns

3.2 Sectoral Changes. In the early years of Bank operations the emphasis was on non-agricultural development. Between FY48 and FY60 only 17 percent of total Bank projects and six percent of total Bank investment was for agriculture. In the recent years it has become apparent that greater agricultural output was not only a necessary condition for the expansion of most economies, but was perhaps the only way to achieve growth in many areas. There was a corresponding increase in the share of lending for agriculture. (See Figure 1.) As a result, lending for agriculture rose from 12 percent of all lending in FY61-65 to 24 percent of a much higher annual volume of lending in FY73-74. (See Table 8.)

3.3 Widening of Lending. In the early years of Bank operations the emphasis was on the transfer of capital and the development of capital-intensive projects, notably in irrigation. From FY47 to FY70, 48 percent of total Bank investment in agriculture was in irrigation. Between 1961 and 1965 the irrigation proportion was 79 percent. Since then, although investment in irrigation has increased absolutely, the proportion has fallen to about 30 percent in the years since FY70. (See Table 9.) The Bank will continue to invest in irrigation. However, the growing appreciation that agricultural development involves a whole complex of interdependent components has led to a substantial widening of patterns of lending for agriculture--including investments in tertiary canals and land leveling to ensure that irrigation water is used effectively at the farm level. By the mid-1960's the Bank was financing a wider range of activities--agricultural and livestock credit, storage, marketing, processing, fisheries and forestry development. Much more emphasis was given to the promotion of technological change at the farm level through the financing of programs to enable farmers to acquire improved seed, fertilizers and equipment. The Bank has also recognized the importance of agricultural research in supporting both individual

projects and international research institutions. In addition, individual projects are becoming more comprehensive and now include not only several agricultural elements but also non-agricultural components such as rural roads, health, training and water supply.

3.4 Deepening of Lending. In recent years the Bank has responded to an increasing awareness that agricultural growth does not necessarily diminish rural poverty. As a result the Bank has been attempting to "deepen" its lending in the rural sector as part of a program intended to aid lower income producers to become more productive. To this end, the poorer countries have been receiving a greater proportion of Bank funds, and project effort has increased the probability that more lower income groups are being reached. Between FY54-68 US\$138.8 million, or 22.5 percent of lending for agriculture, was for countries with per capita GNP lower than US\$150; during FY69-74 this rose to US\$1,356 million, or 38.2 percent of the total lending for agriculture. (See Table 10.) Second, there is some correlation between size of holding and income. Between FY68-72 the percentage of agricultural projects wherein the participating farmers owned under five hectares rose from 17 percent to 67 percent. This further indicates that Bank lending is increasingly directed toward lower income members of the community. Finally, there has been an increase in lending for projects that are directly focused in some respect on providing benefits to the rural poor. (See Table 11-12.) The number of such projects increased from five in FY68 to 28 in FY74, involving an increase of lending from over US\$29 million to almost US\$474 million. From 17 percent of all lending for agriculture in FY68, these projects accounted for 47 percent of a much larger total in FY74. 1/

(ii) The Emergence of "New Style" Projects

3.5 The changes in emphasis that have taken place over time and the focus on reduction of poverty has necessitated the introduction of what might be termed "new style" projects. These have been designed to encompass some, though not all, of what appear to be desired characteristics for rural development as described in Chapter II. The main elements of these projects are:

- (a) they are designed to benefit large numbers of the rural poor, while earning an economic rate of return at least equal to the opportunity cost of capital;

1/ A word of caution is in order regarding these figures. Until recently a large number of projects did not describe the beneficiary group with any detail, and an attempt to determine the intentions of the project at several years distance from time of preparation is difficult. The large increase in FY74 relative to earlier years owes something to better definition of project objectives, although in our judgment, the underlying change is still a considerable one.

- (b) they are comprehensive in their approach to small scale agriculture and provide for a balance between directly productive and other components (where inclusion of the latter is appropriate); and
- (c) they have a low enough cost per beneficiary so that they could be extended to other areas, given the availability of additional resources.

3.6 The "new style" projects have included a variety of approaches. Such projects are intended to reach large numbers through area development, settlement, irrigation and land improvement schemes. Most of the projects have an agricultural base and involve technological change--frequently the introduction of water, credit, improved seed and fertilizer. Many of the projects also include some diversification in agricultural production. The area projects often have some social components--health services, basic education and water supplies. Whenever possible, cost has been held down through evolving low cost delivery systems and working through intermediaries that can absorb some of the overhead costs--notably farmers' associations, cooperatives and other groups. Much remains to be done in this regard.

3.7 The expansion of new style projects has led to a substantial change in the nature of lending for agriculture. An analysis of the appraisal reports for 56 agricultural loans approved in FY74 shows that:

- (a) out of 38 projects for which information is available there are an expected 11.8 million beneficiaries; this does not include estimates of beneficiaries who are not farm operators, such as farm laborers and others whose incomes might have risen because of a project;
- (b) the average income per beneficiary before projects was US\$69; but the range of beneficiaries' incomes was from US\$22 to US\$1,460;
- (c) the projects taken as a whole, which involve a total investment of US\$2 billion, are expected to lead to an average increase in income of 7.3 percent per annum over the development period (an average of eight years); and
- (d) the average cost per beneficiary is US\$160 per capita; however five projects accounted for eight million of the 12 million beneficiaries at a cost per beneficiary of only US\$17 per capita and the increase in income expected from these five projects is also much lower than the average increase for the projects taken as a group.

3.8 The change in the Bank's philosophy on agricultural development over the years as reflected in the pattern of lending for agriculture can be summarized as follows:

- (a) the share of agriculture in total lending has, over the years, increased considerably, and within agriculture poverty-oriented projects now have a larger share;
- (b) the share of the poor countries in lending for both agriculture and poverty-oriented projects has increased significantly;
- (c) the number of people benefitting directly from the Bank operations in agriculture is increasing; and
- (d) based on information from Bank appraisal reports, the incomes of the beneficiaries, including many rural poor, are estimated to increase at a rate higher than the five percent suggested in the Nairobi declaration. But it must be remembered that this increase is for Bank financed projects and that the share of Bank Group financed projects in total investment in agriculture and rural development in developing countries is relatively small.

B. The Way Ahead

3.9 The extent to which direct programs to improve the lot of the rural poor can be mounted and "new style" projects pursued will be determined by:

- (a) the extent to which the goals of equity and growth can be reconciled; and
- (b) the extent of the resources available in relation to the magnitude of the problem.

Aspects of each of these are analyzed in turn.

(i) Reconciling Goals

3.10 An important question for the Bank and member governments is whether or to what extent greater emphasis on rural development implies a diversion of resources away from meeting the urgent needs for increased food production. The possibility of such diversion arises for various reasons. Among these are:

- (a) Heavy investment in projects for those with the lowest incomes could lead to a concentration of effort on a group which commands a small proportion of the basic resource for food production--the land. Based on a sample of 52 developing

countries, if the poor smallholders are considered to control less than two hectares of land per family, collectively they would control only about 16 percent of the arable land.

- (b) It is sometimes more difficult and time-consuming to provide services to large numbers of small farmers than to a smaller number of large farmers. Bank experience indicates that the costs of providing credit to small farmers can run 14 percentage points or more above those for large farmers. Similarly, large numbers of small farmers need more extension workers, so there may be a diversion of scarce resources away from larger producers in addition to the higher costs of expanding these services.
- (c) The immediate urgency of the need for increased food supplies over the next few years may require concentration of investment resources in areas where the potential is greatest for substantial increases in food production within a short period of time. Farmers in these areas might well be relatively better off in terms of resource endowment and infrastructure and not among the rural poverty target groups.

3.11 However, rural development does not always conflict with the objectives of higher food production. Small farmers are often more efficient in the use of resources on the farm than are large farmers. Most of the rural poor are engaged in agricultural production so that steps taken to aid them to become more productive will add to agricultural output. The food problem is most severe in the South Asia and African countries which have the greatest concentration of absolute rural poverty; in many of these countries the distribution of land and income is such that raising the agricultural output of the low income groups in rural areas is the only means by which both production and consumption of food can be increased. This applies also to the landless workers in agriculture for whom rural public works can lead to the creation of productive facilities as well as generating income to purchase food. Finally, at a more general level, the poorest rural--and urban--families who do not produce themselves sufficient food for their own needs stand to suffer most from food shortages and high food prices.

3.12 Bank policy recognizes the interdependence of both these objectives--of increasing food production and of alleviating poverty in rural areas. Bank policy is to aid all agricultural producers but to emphasize the deepening of lending to help small scale farmers--those with holdings up to 5 hectares (including those within the low income target groups)--who account for 40 percent of land under cultivation in developing countries. A Bank policy of assisting agricultural development with emphasis on smaller farms and rural development to help the rural poor will contribute both to raising food output and alleviating rural poverty.

(ii) Resource Requirements

3.13 The Nairobi Speech set the ambitious target of raising the annual rate of growth of output of small farmers to five percent by 1985. ^{1/} Achieving such a target requires that demand increase sufficiently (through both export opportunities and growth in the consuming sectors of the economy) to maintain producer prices; that institutional and organizational constraints be removed or lessened in effect; and that resources be mobilized to assist small farmers. Country experience, as discussed in Chapter II, and the Bank's own experience in implementing projects, confirm that, in many instances, finance alone is not the limiting factor in bringing about a sustained increase in output among small scale producers; frequently technological, organizational, procedural and manpower factors limit the effective use of additional investment. Nonetheless, it is possible to give some approximate indication of the order of magnitude of investment needs.

3.14 Rough estimates of total investment needs were obtained through two different approaches yielding broadly similar results. The first was based on a simple model to permit some analysis of the sensitivity of the results to crucial assumptions and policies. The second drew directly upon Bank experience.

3.15 The parameters of the model include the capital/output ratio, the depreciation rate of capital, the population growth rate of small farm households, the time-lag before investment becomes productive and the share of the benefits from investment which accrue to small farmers. Calculations based on this model yielded an estimate of US\$70 billion for the accumulated capital cost of achieving by 1985 a five percent growth rate in small farmers' production. To maintain this rate of growth beyond 1985 annual investment expenditures of approximately US\$20 billion would be needed. Moreover, the estimated total cost derived from such calculation is sensitive both to variations in the share of benefits assumed to accrue to the target group and to different assumptions about rates of population growth. For example, an overall production growth rate of five percent might be achieved with either a population growth rate of one percent per year and an annual production increase of four percent or a population growth of three percent with a per capita production increase of two percent. Calculations based on the model indicate that cumulative investment costs by 1985 would be US\$5 billion lower in the first of these cases, that is, with a lower rate of growth of population.

3.16 The importance of the share of project benefits accruing to the target population for any estimates of the total cost of reaching the Nairobi

^{1/} As explained in Chapter I, the target poverty group has been changed from the acreage basis in the Nairobi Speech to an absolute and relative income basis. Nevertheless, the five percent target rate of growth refers to all small scale farmers and not just those in the lowest income groups.

objectives is revealed as well in the calculations based upon the Bank's own experience. As is shown in Table 11, there was a subset of 25 agricultural projects (single- and multi-sector) approved in FY74 where at least 50 percent of the direct beneficiaries are likely to be farm families with annual incomes below US\$50 per capita. Including those outside this poverty group (a substantial number of whom would nevertheless be small farmers with holdings under five hectares), these projects are expected to benefit farm families accounting for some 11 million people. As a result of the projects, net output per farm family is projected to increase by more than five percent per annum over an eight year development period, beginning from a level of annual income that averages approximately US\$60 per capita. With total project costs of almost US\$900 million, average project cost is under US\$80 per capita. If sufficient projects at this average per capita cost of US\$80 could be and were designed and implemented solely for the rural poor (projected to number 700 million by the end of the 1970's) the implied global cost would be US\$56 billion. But, if it is not feasible to reduce the per capita cost significantly nor desirable to increase the percentage of direct beneficiaries among the rural poor (as distinct from other small farmers) above the 50 percent representative of recent Bank experience, the overall cost of projects and programs with direct benefits for the rural poor and small farmers could amount to over US\$100 billion.

3.17 The estimates above are, however, subject to a substantial margin of error because:

- (a) the mix of investment opportunities during the next decade could vary significantly from that in 1974 (though a provisional analysis of Bank projects in FY75 indicates a pattern similar to 1974);
- (b) indirect beneficiaries, such as landless laborers, are not included in the project appraisal estimates;
- (c) it is uncertain how much project design can reduce costs and increase benefits;
- (d) greater government commitment, more appropriate government policies, and better rural, regional, and project planning could also result in significant economies and higher benefits;
- (e) the cost estimates do not necessarily include all those costs which are external to the projects but essential for broader programs of rural development; and
- (f) because output may increase faster in future than consumer demand, farm-gate prices may decline and hence the net benefits may be lower.

3.18 On some counts, even the higher estimate of US\$100 billion would seem a remarkably modest total cost for providing the impetus toward sustainable increases in productivity and real income for the rural poor. Estimates ^{1/} of income, savings and investments in the developing countries, including the oil and mineral rich nations, indicate that total investment in developing countries in 1974 would be approximately US\$170 billion. Allowing for phasing over, say, a ten-year period, US\$10 billion per annum for rural development would account for only six percent of this total. But, for the low income developing countries (those with per capita incomes below US\$200 at 1967/69 prices), the picture is very different. Among this group of countries, investment in 1974 would be of the order of US\$25 billion. For this group the investment requirements for rural development are large relative to the availability of resources, since these countries account for more than 60 percent of the rural poor. The regional breakdown is shown in Table 13.

(iii) The Lending Program

3.19 There are many constraints on lending for agricultural and rural development. Nonetheless the compelling financial and human needs of the rural sector justify an ambitious five-year target. Under the Bank's lending program for FY69-73, US\$3.4 billion was allocated to agricultural development, some 20 percent of total lending over this period. The preliminary FY74-78 program allocates 26 percent of total lending to agricultural development, i.e., US\$6.5 billion (at constant FY74 prices). Dropping FY74 and adding FY79 would increase this figure to approximately US\$7.2 billion for the five-year period FY75-79. Based on past experience of cost sharing, this would involve a total investment of approximately US\$15 billion in the rural sectors of the developing countries.

3.20 Assuming a program of US\$7.2 billion for agricultural and rural development, the question then becomes one of the allocation of resources within the rural sector. The past trends in lending, and more particularly the experience in FY75, indicate that it is possible to design "new-style" projects that can fulfill many of the desired objectives of Bank policy. Close to half of the loans in FY74 are "new style" and indications are that a high proportion of all projects in FY75 will be also. While there is limited information on the projects in the latter part of the five-year period, there is every reason to anticipate that a high proportion of "new style" projects can be maintained during FY76-79.

3.21 The Bank should, therefore, plan to double the FY74 level of lending for rural development during the period FY75 to FY79. This would imply a total Bank Group investment rising from US\$0.5 billion in FY75 to US\$1.0 billion in FY79, at 1974 prices. Taken over the five-year period, this would represent one-half of the Bank's total projected lending for agricultural and rural development. Allowing for local contributions and other

^{1/} These were based on IBRD, World Economics Indicators, Sec M74-665, September 24, 1974.

funds, the proposed lending program would support a total annual investment program of approximately US\$2 billion by FY79. This is some 20 to 30 percent of the rough estimates of the annual requirement for financing the target income increase of five percent per annum discussed in paragraphs 3.15-3.18, i.e. US\$70-100 billion spread over 10 years averages US\$7-10 billion a year. The proposed lending program would test the absorptive capacity of many developing countries, especially the poorest countries most in need of external resources. Substantial new efforts to mobilize local resources would be needed, together with organizational changes to utilize existing resources more effectively as discussed in Chapter II. The role of the Bank in bringing about such changes is discussed in the next section. In some countries, however, to effect such changes will require a greater degree of political and social commitment to the general objectives of rural development than has been the case up to the present.

3.22 An analysis of the projected lending program for agriculture (based on the aggregate of the country lending program projections) shows some differences between the regional distribution of lending and the regional distribution of the rural poor. In particular, the concentration of rural poor in the South Asia region considerably exceeds the share of this region in total projected Bank lending for agriculture. If the proposed program of lending for agriculture and rural development were distributed among regions according to regional concentrations of rural poverty, projected lending for South Asia in these sectors would need to be more than double the present prospective regional total. This calculation reflects the fact that the South Asia region accounts for 75 percent of the 360 million rural poor in the low income, resource poor group of countries. Tables 13 and 14 show the details of these calculations.

3.23 The South Asian problem is quantitatively by far the most severe and, in view of the poverty of the countries involved, probably the most intractable. It is likely that rural development projects will play a considerably greater role in South Asia than in the past. For one thing, the previous emphasis on agricultural credit operations (which accounted for more than 50 percent of all agricultural lending for South Asia in the FY69-73 period), and were not primarily oriented toward specifically identified target groups of rural poor, was greatly reduced in the FY75 program. This change in emphasis is confirmed by estimated totals of agricultural lending Bank-wide by type of project as projected for the FY75-79 period. Compared with FY69-73, the FY75-79 share of area development projects (which include area-based rural development projects) increases from six percent to 30 percent, the increase being matched by declines in the relative importance of credit operations, irrigation projects and livestock projects.

3.24 Should additional resources become available, the claims of the agricultural sector in general, but especially the need for additional resources for agriculture and rural development in South Asia, seem persuasive. Some adjustment to increase lending for rural development in South Asia above the levels implied by the current lending projections

in the region should be contemplated. Questions concerning the technical and other assistance conducive to this goal which the Bank can supply, together with internal staffing implications, are taken up in the final section of this Chapter.

3.25 The proposed program is unlikely to be attained without continuing major efforts on the part of the Bank staff to support and further develop innovative approaches to project design and implementation. It is difficult to foresee the forms these innovations might take, but a number of the kinds of changes that will be needed are already embodied in recent projects. Many of these might be suitable for application on a wider scale. For example, the recent IDA credit to Upper Volta for agricultural development established a Rural Development Fund. Its purpose was, in part, to deal with the uncertainties of government finance, particularly after the termination of the project implementation period, and to mobilize additional local resources. A model for capitalizing effectively on the benefits of new agricultural research is provided by the recent Korea Seeds project which finances the establishment of a modern seeds industry in that country, including the capacity to undertake continuing research into a range of crops. The result should be broad based income increases for a large group of farmers at very low cost. This is an example of a national minimum package program. Also in Asia, the Keratong Land Settlement project in Malaysia includes the financing of project towns in the settlement area and thus provides an example of a linked or integrated approach to rural development that includes recognition of the impact on regional urban settlement. In this project there is a positive attempt to provide for the conditions and facilities calculated as necessary to attract skilled persons away from the largest cities and to reduce the migration of the unskilled, partly educated rural youth toward the same cities. In East Africa, the Kigoma project in Western Tanzania is an example of the use of a regional government authority for project management. The broad range of skills and expertise thus available enables a wide range of services to be financed under the cover of a regional development plan of operations, in which the project is itself the core part. This project is also providing finance for the preparation of other rural development programs in the context of improved regional and rural planning.

3.26 Another feature of growing significance is the support for ongoing programs of rural development, where there is sufficient experience or commitment on the part of government, and scope for design improvement and increased program effectiveness. One example would be the Mauritius Rural Development project supporting the rural works program there. There are a number of others at late stages of preparation and appraisal: a project supporting Government's drought-prone areas programs for India; support for the Mexican Government's PIDER program of rural development; and provision of services and facilities for improved training of local officials in program formulation and implementation relating to the INPRES program of rural works in Indonesia. Many of these are nation-wide programs, or have the

potential to become nation-wide programs. There will be increasing importance attached to support of a range of project activities under the umbrella of an overall strategy or rural development plan. A series of projects relating to Nigeria recently prepared for Board consideration provides one example of this approach. The size of the Mexican PIDER program referred to above implies that it is, in effect, a series of projects that can be packaged as one, because of the common philosophy and set of objectives to which they relate.

3.27 It is likely that the proposed program will also require greater efforts to prepare multi-sectoral, integrated programs, involving not only a mix of directly productive and social elements, but also a greater range of productive components than is now the case. In particular, it is highly desirable in some areas to prepare integrated rural industry projects, involving as possible components rural electrification, training, and credit as well as agricultural elements. Such efforts might fit particularly well into the later phases of the multi-stage type of project activity that will be called for in the more sophisticated environment. There will also have to be a greater emphasis on helping the landless through industrial and training types of projects, as well as single or multi-sector efforts focused on training and education more specifically designed for rural people. Multi-sectoral approaches are especially suitable for provision of rural health, family planning and other social services. For example, the Bank will introduce selected elements of reformed health services into rural development projects and will link control operations for specific diseases (such as river blindness and sleeping sickness) with rural development programs.

3.28 In addition to innovation and experiments with new approaches, however, there is a continuing need for the weight of Bank experience in more conventional types of activities to be brought to bear on the concentrations of rural poverty--through schemes of general land improvement, irrigation, clearance for settlement or drainage, credit programs and programs addressed to the needs of more specialized groups such as fishermen and herdsmen. Support for such activities will be further extended into the most challenging and difficult agro-ecological areas, such as those of the Sahel and the mountainous areas of Latin America. This will involve more national research and pilot testing of technology and special institutional arrangements in particular target areas. According to country needs and circumstances, therefore, in the terminology of Chapter II, there will continue to be a mix of minimum package, area development, national comprehensive, and public works programs in the rural areas.

3.29 Two rather different points relevant to the proposed lending program for rural development might usefully be made in conclusion. First, recalling the conclusions in Chapter II, the difficulties and uncertainties of the rural development process have been stressed. If the past provides any guide in this area, it surely suggests that innovation and experimentation which will clearly be necessary for any considerable measure of success

certainly be accompanied by some failure. A great many of the "new style" projects, and the innovative ideas they embody, have yet to be tested through a period of full development. One step that will help to minimize the risks is the provision of adequate facilities for monitoring and evaluation of the project experience, so that the lessons of experience can be learnt. The second point is that the Bank program--ambitious as it is--will scarcely keep pace over the five-year period with the increase in numbers of rural poor resulting from population growth. The latter could amount to 70 millions, while the rural poor benefiting from these programs will probably not exceed 60 millions. (Total beneficiaries--including those outside the target groups--can be estimated at 100 millions.)

C. Deployment of Bank Resources

3.30 What more is necessary to ensure that the manner in which the Bank Group processes projects is conducive to meeting goals and broader policy objectives? Recent actions have included providing guidelines with respect to the conduct of rural sector work and to elements of Bank policies and procedures which might be considered constraints on designing, processing, and implementing rural development projects; assisting governments with in-depth research; increasing resources for agriculture and rural development; and improving control and monitoring procedures.

(i) Monitoring Progress

3.31 The Bank now regularly monitors the progress of economic sector and project work. More recently, a monitoring system for rural development projects was introduced. The objectives are to help influence the design of projects at the earlier stages in order to increase their impact on the productivity and quality of life of the rural poor, and to follow the progress of projects through the pipeline. This monitoring will be achieved by the filing of regular "project information briefs" (PIBs) on all projects in the lending program, and will result in a system of quarterly progress reports. On the basis of these reports, any modifications necessary to ensure the accomplishment of the Bank program will be made in Bank policies and procedures.

3.32 It is important to spell out at an early stage in project identification the basic project rationale together with a broad project profile. This should indicate: number of farmers and other target groups, their income classes, the projected impact on productivity, cost of the project and its replicability and breakdown into directly productive and non-productive investment. This would focus the project preparation process in the face of institutional constraints at the local and national levels, define the scope of the project and establish appropriate component cut-off points.

(ii) The Project Cycle

(a) Project Identification

3.33 Internal monitoring of the kind outlined above should provide a useful series of reference points for reviewing progress in meeting the goals and objectives. But, for the system to provide a more positive stimulus to obtaining these goals, other action is required.

3.34 First, an intensive back-up effort is needed at the country economic and sector work level in order to both provide guidance and support for project planning strategies and tactics, and to facilitate more systematic consideration of rural development criteria in the selection and design of projects in the lending program. Agriculture and rural development sector work is essentially of two kinds: that which is needed to support country economic work and that which facilitates project identification. It is with the latter, which has to be given higher priority, that we are concerned here.

3.35 Rural sector studies need to be oriented toward (i) identifying and focusing upon target zones and populations; (ii) assessing technology constraints and the potential for small farms; (iii) examining infrastructure requirements; (iv) evaluating the capacity of existing service systems and their potential; (v) reviewing the administrative arrangements and capability for the rural sector; and (vi) vetting national policies relating to rural development. Preliminary guidelines to encourage such an approach have been issued and will be reviewed in the light of experience with regard to the manner in which agriculture and rural development sector work can best be carried out.

3.36 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 on 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.

3.37 Early experience suggests the usefulness of a new type of activity known as rural reconnaissance missions, to supplement agricultural sector studies, especially in the integration of agriculture and other sector work,

and the evaluation of government rural development programs. Such reconnaissance missions may be restricted to one region or one area of a country, as opposed to studying the rural sector as a whole, but have a purview broader than a project mission. These missions are particularly useful in assessing new government proposals for rural development which are larger than a project but provide the administrative context in which rural development may be implemented. Their function thus falls between that of a typical Bank project and a sector mission.

3.38 A fully articulated program for project identification should be developed. This would include both sector and sub-sector review missions and rural reconnaissance missions. The articulation of such a program to identify and prepare an adequate pipeline of projects is likely to call for more, rather than less, resources to be devoted to these activities.

(b) Project Preparation

3.39 Because the number and variety of components in rural development projects make their design a complex and time-consuming task, a relatively long lead time is required for project preparation. Since there are likely to be continuing constraints on increasing the Bank's manpower resources (including consultants), there is a need to examine the feasibility of reallocating staff and rearranging the time spent on the various phases of the project cycle. Identification and preparation require time and this is especially important for rural development projects because of their complexity.

3.40 The identification and preparation of rural development projects is not well organized in many developing countries. Consequently, additional assistance is required and could take one or more of the following forms:

- (a) technical assistance to establish or strengthen the kinds of planning and programming units referred to in paragraph 3.41 below;
- (b) expand the project preparation capacities of the Cooperative Programs with FAO, WHO, and UNIDO;
- (c) introduce a special type of project, which might be termed rural preparation, the purpose of which would be to design rural development projects in detail prior to the appraisal of the actual projects themselves; this activity is analogous to the "engineering credits" used in the first phase of some transportation projects;
- (d) make more use of pilot projects, but on a scale of sufficient magnitude to test larger scale expansion.

3.41 The extent to which the Bank Group needs to shift and/or increase its resources for rural development work will depend in part upon the degree to which member governments develop project planning and programming units in departments and agencies concerned with agriculture and rural development. Experience confirms the great importance of establishing decentralized planning units with project preparation sections. In the case of rural development programs, such units are best situated in the planning units of regional or local governments, where such exist. Such an approach is in keeping with the rural development tenet of building on local initiative. It also has the advantage not only of strengthening local planning capacity but of having a direct bearing on the future implementation and implementability of projects. Where there is no regional or local government, and where nationally integrated programs are desired, preparation should be undertaken by a central office for rural development coordination, such as that outlined in Chapter II, or in a Ministry of Planning and Development.

(c) Project Appraisal Methods

3.42 Rural development projects, with their particular emphasis on distributional as well as productivity aspects, tend to be more complicated than typical agricultural projects. This is particularly true for those multi-sectoral projects which have benefits which cannot easily be quantified in monetary terms. However, experience thus far has been that all the rural development projects approved to date have shown adequate rates of return when the quantifiable benefits and costs are assessed in the usual manner. In some projects, the rates of return have also been satisfactory when the costs of those project elements for which the benefits cannot be quantified have been included along with other costs. It does not follow, however, that this will necessarily always be the case in the future. It is important, therefore, to consider more closely the non-quantifiable benefits and income distribution aspects of rural development projects, bearing in mind the necessity of maintaining the Bank's high standards of project appraisal.

3.43 The benefits of some project elements can be quantified--usually the directly productive components--and some cannot--usually social service ones. Some project elements all of whose benefits cannot be quantified may nevertheless be necessary for achieving production targets; in such cases the costs of these elements should be included in total costs. On the other hand there may be project components for which the benefits cannot be quantified which are not necessary for achieving production targets directly but which nevertheless are important elements for increasing production indirectly and for improving the quality of life of the rural poor, in such cases the costs should not be included in total costs for rate of return calculations. In either case, how does one assess whether the levels of services proposed are justified? In the first place, reference must be made to sector or national policies, which should preferably establish minimum standards criteria (e.g., so many health clinics of a certain standard per head of population, maybe stratified by population density). Second, one should make certain that, within the national or regional minimum standards,

the discounted total cost is the minimum among alternative ways of providing the services; the process of selecting the least cost alternative should be made explicit so as to ensure that realistic alternatives have been considered. Such an approach is accepted practice in public utilities and other projects where "administered" prices are charged or benefits cannot be quantified. ^{1/} Third, care should be taken that the social profitability of one component is not obscuring the negative social profitability of another component. This implies separate evaluation of project components. Fourth, where charges are made for services but the prices are "administered" ones, the marginal social costs should be estimated. Should it appear that the services are to be provided at less than their social cost, the implied subsidy must be justified in terms of government social objectives (including special pricing arrangements for the rural poor) and public savings. For example, are the subsidies going only to those who need them, and are costs being recovered sufficiently to provide funds for projects in other areas? Fifth, the recurrent costs of such investment must be estimated and the implications on the government's budgetary position worked out and justified.

(d) Project Implementation

3.44 Because our knowledge and experience of how best to help the rural poor to raise their productivity and improve the quality of their lives is limited, it is necessary to:

- (a) build a degree of flexibility into projects so that modifications can be made as experience is gained; and
- (b) in order to (i) control and monitor the extent of deviations from expectations, and (ii) learn the lessons of experience, evaluation systems must be devised. But such systems can be expensive and governments are naturally reluctant to tie up scarce human and financial resources in what might be regarded as sophisticated and esoteric monitoring systems. If such systems are viewed merely as something which aid agencies require, then the real point is missed. It is that evaluation systems should be in an integral element of the internal management control system. If they are introduced for this purpose, they can also serve the supervision functions of governments and assistance agencies and aid in learning the lessons of experience.

(iii) Technical Assistance

(a) Training

3.45 Because the chronic shortage of indigenous supervisory and managerial staff is a major constraint in most developing countries, the training of

^{1/} See IBRD, Economic Evaluation of Public Utility Projects, July 1974.

"development managers" is of top priority. Much of this must be done "on-the-job," but it usually has to be supplemented by more formal training. The traditional way of providing on-the-job training is to provide technical assistance and insist on counterparts being supplied. Some technical assistance experts are better than others in training counterparts, but in general the record is disappointing. There are many reasons for this, including a shortage of adequate counterparts and the fact that the experts are often fully and wrongly engaged in executive functions. Consequently, it is important--at least in the larger projects--to make provision for proper training courses for counterpart personnel. Increasingly, Bank projects are doing this and it is a trend to be strongly supported. Any increase in the supply of local expertise would also help to free scarce technical assistance for new projects.

(b) Public Sector Organization

3.46 Much more attention needs to be paid to public sector organization, procedures and personnel management and to the manner in which project organizations should be fitted into improved public sector systems. There has been an understandable tendency on the part of the Bank Group and other donors to establish project entities outside the cumbersome civil service structures in many developing countries. In this way highly privileged enclaves have been created to the detriment of longer-run improvement in public sector efficiency. Multi-sectoral rural development projects in particular depend critically on inter-agency cooperation and coordination. Hence those responsible for preparing such projects must identify the real public sector institutional constraints and seek practical solutions. Institutional constraints may be so pervasive, however, that general reforms may be required before particular projects can be implemented.

3.47 Reference was made earlier to the importance of strengthening local project planning capacities. Experience to date would also seem to indicate that there are few links between the preparation and implementation phases, and that "project managers" are appointed too late. It would not be an easy task to organize, but it would appear desirable for "project managers" to be appointed fairly early in the preparation stage so that they can be involved in the design of the projects they will manage. Not only would this help to reduce the growing delays between approval of projects and commencement of implementation, but it might improve the design of projects and should raise the quality of management.

(c) Research and Information

3.48 A recurring consideration in this paper has been the inadequacy of information concerning the circumstances of the rural poor and the means through which a broad scale acceleration of rural development can be achieved. This, together with the magnitude and inherent complexity of the problem, suggests high priority be given to research and information gathering relevant to the processes of rural development. The scale of Bank efforts in this area

can never amount to more than a fraction of the total national and international resources required. Therefore, in addition to doing research itself, its contribution should take the form of assistance to member countries in undertaking research and analysis to provide firmer foundations for rural development programs and projects.

3.49 The first need is for more insight into the general characteristics of target groups and the dynamics of traditional societies as they begin to modernize. In some cases this is simply a need for information on how many people there are, where they are, and perhaps who they are. But once program design is under way, there is also a need to know about their skills, resource ownership, incomes, nutrition and health status, family structure and general socio-economic environment. Such information has to be collected by survey and, to be adequate for project planning, must be current. Some information is available on a global basis in the FAO World Census of Agriculture and, on a country basis, from national censuses and surveys. The Bank is currently working with FAO to speed up analysis of the World Agricultural Census with respect to the small farm sector. The Bank should undertake and encourage more information gathering, especially as a precursor to rural development program planning.

3.50 Second, the importance of improving our knowledge of the micro-dynamics in rural areas for the design of projects, and increasing our understanding of micro-level responses to macro-policy in order to improve program formulation, suggests the need for research in these areas. To this end, the Bank is currently working with several external agencies on a study of "The Analytics of Change in Rural Communities". This has the following aims: (a) designing and evaluating key features of integrated rural development projects; (b) analyzing the effects on rural communities of different development policy instruments; (c) helping to identify those features of successful projects which can be replicated in other rural areas; and more generally, (d) providing an efficient feedback system to enhance the value of project experience in updating our understanding.

3.51 Third, it is important to have more information about the resources available for exploitation by the rural poor and others. To this end, the Bank should encourage others, and join with them, to finance resource inventory and evaluation work based on various kinds of field surveys; the use of ERTS imagery and aerial photography; national income, production and employment statistics disaggregated to the regional and local levels; and sectoral and regional studies to discover additional growth centers and rural/urban linkages. Indonesia provides examples of these kinds of studies. ^{1/}

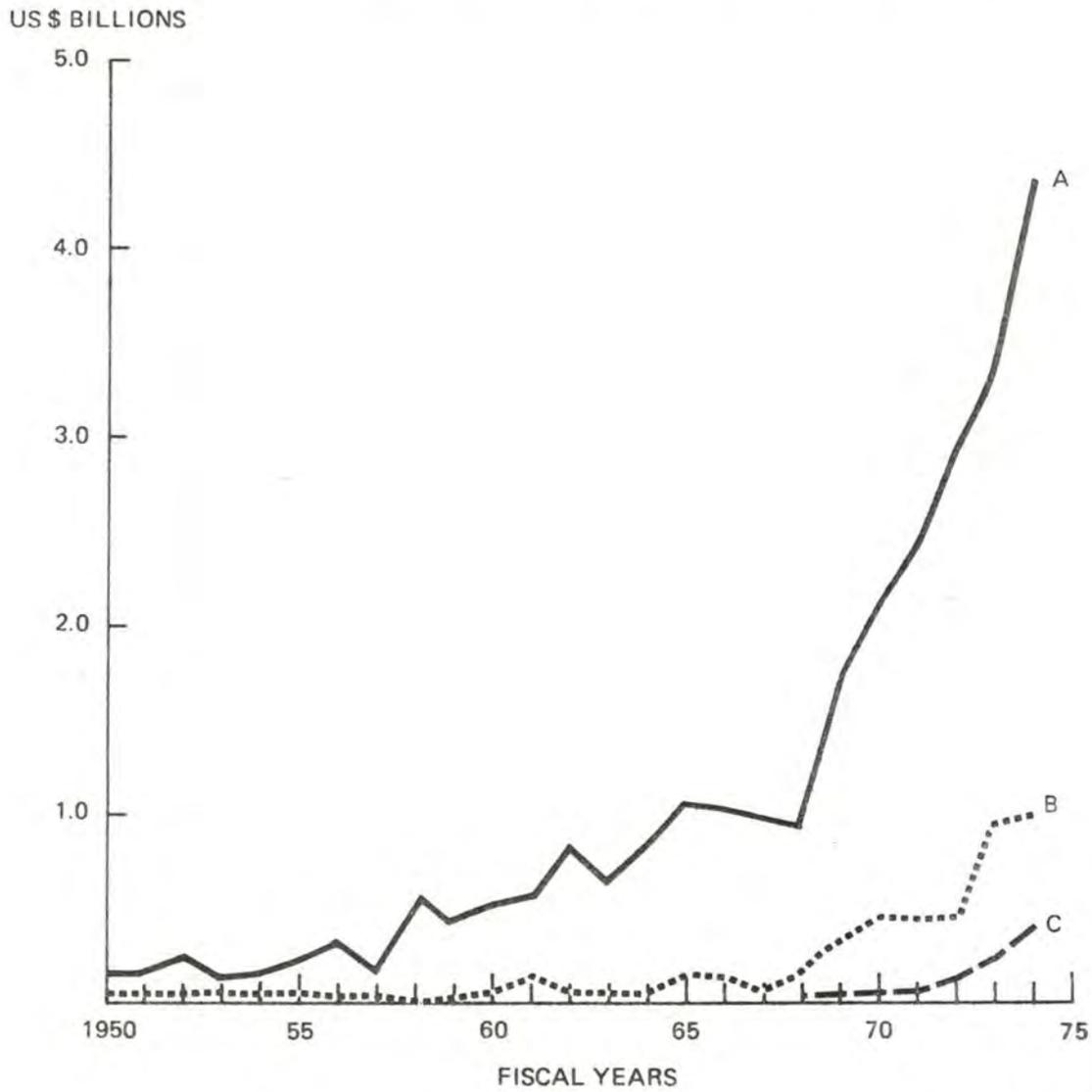
^{1/} Examples of regional planning studies are those of the southern half of Sumatra, Eastern Indonesia, and Suluwezi, being carried out with the assistance of the Bank, the Federal Republic of Germany, and the Canadian International Development Agency. Also the Bank and CIDA are currently considering financing a "National Resource Inventory and Evaluation Project" in Indonesia.

3.52 Fourth, it is very important to step up technical agricultural research to adapt known technologies to national and local situations. Such adaptive research includes varietal trials and plant breeding, experiments with fertilizer and water requirements for high-yielding varieties, development of improved cultural practices, especially for food crops and designing farming systems for smallholdings. Research also needs to be undertaken to collate and synthesize all the work which has been carried out into "appropriate technologies" and to make recommendations for the production engineering of such machinery and equipment for local manufacture. The Bank should, therefore, support projects for strengthening existing and establishing new national research institutions, working in harmony with the ten international research activities financed by the Consultative Group for International Agricultural Research centers.

3.53 Finally, the whole spectrum of research activities referred to above should be thoroughly reviewed to assess whether the Bank is focusing adequately on the research needed to support its commitment to rural development.

FIGURE I

WORLD BANK LENDING FOR ALL SECTORS
AGRICULTURE AND RURAL DEVELOPMENT FY1950 - 74



A. LENDING FOR ALL SECTORS
B. LENDING FOR AGRICULTURE
C. LENDING FOR RURAL DEVELOPMENT

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Table 1: ESTIMATES OF TOTAL AND RURAL POVERTY AMONG DEVELOPING COUNTRIES, 1969

| Region | Population 1969 | Population in Poverty | | Rural Population in Poverty | |
|---|--------------------|--|--|--|--|
| | | Below US\$50 Per Capita ^{a/} | Below US\$75 Per Capita ^{a/} | Below US\$50 Per Capita ^{a/} | Below US\$75 Per Capita ^{a/} |
| ----- (millions) ----- | | | | | |
| Developing Africa | 360 | 115 | 165 | 105 | 140 |
| Developing America | 260 | 30 | 50 | 20 | 30 |
| Developing Asia | 1,080 | 415 | 620 | 355 | 525 |
| Developing countries total | 1,700 | 560 | 835 | 480 | 695 |
| Four Asian countries ^{b/} | 765 | 350 | 510 | 295 | 435 |
| Other countries | 935 | 210 | 325 | 185 | 260 |
| ----- (percentages) ----- | | | | | |
| Share of 4 Asian countries ^{b/} | 45 | 63 | 61 | 62 | 63 |
| Share of Developing Asia | 64 | 74 | 74 | 74 | 76 |
| Share of Developing Africa | 21 | 21 | 20 | 22 | 20 |
| Share of Developing America | 15 | 5 | 6 | 4 | 4 |
| Combined share, relative to total population | 100 | 33 | 49 | 28 | 41 |

^{a/} 1969 prices.

^{b/} Bangladesh, India, Indonesia, Pakistan.

Source: See notes for Table 1.

Notes for Table 1

1. A calculation of poverty for a majority of developing countries, as defined in Table 1, was made for the IBRD and IDS study, Chenery, Ahluwalia, Bell, Duloy, and Jolly, Redistribution with Growth (London, Oxford University Press, 1974). To these data were added rough estimates for countries excluded in that study, using the same data sources with respect to population and per capita income in 1969 prices but with national income distribution based on experience in countries for which data were available.

2. To calculate rural poverty, data for the share of urban in total population were obtained from Kingsley Davis, World Urbanization 1950-1970, Population Monograph No. 9 (Berkeley, Calif: University of California at Berkeley, 1972). An assumed ratio of urban to rural income was applied, together with rough estimates for urban income distribution. With these assumptions, data for rural poverty were obtained after deducting estimates for urban poverty from total poverty.

Table 2: ESTIMATES OF RELATIVE POVERTY AMONG DEVELOPING COUNTRIES, 1969

| Region | Population 1969 | Population in Poverty | |
|---|--------------------|--|--|
| | | Income Below One-Third of National Average Per Capita Income | Income Below \$50 Per Capita Plus Population with Incomes Below One-Third of National Average Per Capita Income |
| ----- (millions) ----- | | | |
| Developing Africa | 360 | 75 | 125 |
| Developing America | 260 | 80 | 80 |
| Developing Asia | 1,080 | 145 | 440 |
| Developing countries total | 1,700 | 300 | 645 |
| ----- (percentages) ----- | | | |
| Share of Developing Asia | 64 | 48 | 68 |
| Share of Developing Africa | 21 | 25 | 19 |
| Share of Developing America | 15 | 27 | 12 |
| Combined share, relative to total population | 100 | 18 | 38 |

Source: See notes for Table 1.

Table 3: RURAL POPULATION AND RURAL POVERTY AMONG DEVELOPING COUNTRIES

| Region | Rural Population 1969 | Rural Population in Poverty | | | The Percentage of the Rural Poor in Rural Population | | |
|---|-----------------------|-----------------------------|-------------------------|---|--|-------------------------|---|
| | | Below US\$50 Per Capita | Below US\$75 Per Capita | Income Below One-Third of National Average Per Capita, OR Below US\$50 Per Capita | Below US\$50 Per Capita | Below US\$75 Per Capita | Income Below One-Third of National Average Per Capita, OR Below US\$50 Per Capita |
| | | (millions) | | | (percentage) | | |
| Developing Africa | 280 | 105 | 140 | 115 | 38 | 50 | 41 |
| Developing America | 120 | 20 | 30 | 45 | 17 | 25 | 38 |
| Developing Asia | 855 | 355 | 525 | 370 | 42 | 61 | 43 |
| Developing countries total | 1,255 | 480 | 695 | 530 | 38 | 55 | 42 |
| Four Asian countries <u>a/</u> | 625 | 295 | 435 | 295 | 47 | 70 | 47 |
| Other countries | 630 | 185 | 260 | 235 | 29 | 41 | 37 |
| | | (percentages) | | | | | |
| Share of four Asian countries <u>a/</u> | 50 | 62 | 63 | 56 | | | |
| Share of Developing Asia | 68 | 74 | 76 | 70 | | | |
| Share of Developing Africa | 22 | 22 | 20 | 22 | | | |
| Share of Developing America | 10 | 4 | 4 | 8 | | | |
| | 100 | 100 | 100 | 100 | | | |

a/ Bangladesh, India, Indonesia, Pakistan.

Source: See notes for Table 1.

Table 4: LANDLESS FARM WORKERS IN SELECTED COUNTRIES^{a/}

| | Number of Land- less Workers '000 | Landless Workers as % of Active Population in Agriculture % | Active Agricultural Population as % of Total Active Population % |
|---------------------------------------|---|---|---|
| <u>Asia</u> | | | |
| India ^{b/} | 47,300 | 32 | 68 |
| Indonesia | 5,673 | 20 | 70 |
| Pakistan ^{c/} | 8,013 | 29 | 70 |
| Total | 60,986 | 30 | 68 |
| <u>Middle East & North Africa</u> | | | |
| Algeria | 1,099 | 60 | 56 |
| Egypt | 1,865 | 38 | 55 |
| Iran | 903 | 25 | 46 |
| Morocco | 484 | 19 | 61 |
| Tunisia | 210 | 20 | 46 |
| Total | 4,561 | 33 | 58 |
| <u>Latin America & Caribbean</u> | | | |
| Costa Rica | 122 | 53 | 45 |
| Dominican Republic | 179 | 25 | 61 |
| Honduras | 138 | 27 | 67 |
| Jamaica | 72 | 41 | 27 |
| Mexico (1970) | 2,499 | 49 | 39 |
| Nicaragua (1971) | 101 | 43 | 47 |
| Argentina | 694 | 51 | 15 |
| Chile (1971) | 378 | 66 | 28 |
| Colombia | 1,158 | 42 | 45 |
| Ecuador | 391 | 39 | 54 |
| Peru | 557 | 30 | 46 |
| Uruguay | 99 | 55 | 17 |
| Brazil | 3,237 | 26 | 44 |
| Venezuela | 287 | 33 | 26 |
| Total | 9,912 | 35 | 39 |
| Grand Total | 75,459 | | |

Except for India, data presented here are estimated from ILO Year Book of Labor Statistics, 1971, pp. 43-294, and 1972, pp. 44-301. Unless otherwise indicated, data refer to latest year available in 1960's and thus do not reflect recent reform actions, on the one hand, nor changes in the work force, on the other. Agricultural laborers as shown in India, Ministry of Agriculture, Directorate of Economics and Statistics, Indian Agriculture in Brief (Eleventh Edition, 1971) p. 14. Includes population now belonging to Bangladesh.

Table 5: NUTRITION LEVELS BY INCOME CLASS

| | Percentage of Families | Calorie Intake Cals (per capita) | Protein Intake Grams (per capita) | |
|--|---------------------------|--|---|-------------|
| | | | Total | Animal |
| <u>Latin America</u> | | | | |
| Brazil (1960/61) | | | | |
| Annual family income (new cruzeiros per year) | | | | |
| Rural areas: | | | | |
| under 100 | 7.94 | 1.755 | 50.0 | 13.2 |
| 100-249 | 27.30 | 2.267 | 64.9 | 21.7 |
| 250-499 | 29.68 | 2.577 | 75.9 | |
| 500-1,199 | 24.56 | 3.144 | 95.4 | 39.1 |
| 1,200 and over | <u>10.52</u> | <u>3.674</u> | <u>116.6</u> | <u>32.5</u> |
| Total average | | 2.683 | 80.6 | 21.3 |
| Colombia (1956-62) | | | | |
| "very poor" rural | | 1.535 | 30 | 9 |
| "middle class" rural | | 1.538 | 34 | 15 |
| "middle class" urban | | 3.138 | 52 | 22 |
| | | 2.133 | 60 | 31 |
| Mexico (1958/59) | | | | |
| "very poor" rural | | 1.788 | 45 | |
| "middle class" rural | | 1.803 | 51 | |
| "middle class" urban | | 2.275 | 57 | |
| | | 2.331 | 64 | |
| Peru (1951-58) | | | | |
| Mountain area | | 1.794 | 47 | |
| Coastal areas | | 2.205 | 64 | |
| <u>Asia</u> | | | | |
| Ceylon | | | | |
| Rural (1961-66) | | 1.864 | 44 | 8.3 |
| Upper class Colombo (1957) | | 3.271 | 84 | |
| Iran | | | | |
| Peasants | | 1.842 | 60 | |
| Urban wage earners | | 2.132 | 65 | |
| Landowners | | 2.658 | 74 | |
| India (1958) | | | | |
| Maharashtra State | | | | |
| Expenditure per capita (rupees) | | | | |
| Urban and rural areas: | | | | |
| 0-11 | 21.3 | 1.340 | 37.9 | 1.4 |
| 11-18 | 18.9 | 2.020 | 56.6 | 2.6 |
| 18-34 | 20.7 | 2.485 | 69.0 | 6.6 |
| 34 and over | <u>39.1</u> | <u>3.340</u> | <u>85.7</u> | <u>11.9</u> |
| Total average | | 2.100 | 59.7 | 4.5 |
| <u>Africa</u> | | | | |
| Madagascar (1962) | | | | |
| Income ('000 fr. per family/yr.) | | | | |
| 1-20 | 54.7 | 2.154 | 47.3 | 5.5 |
| 20-40 | 27.7 | 2.292 | 54.1 | 6.5 |
| 40-80 | 11.0 | 2.256 | 53.6 | 9.4 |
| 80-130 | 3.8 | 2.359 | 61.2 | 15.2 |
| 130-190 | 1.5 | 2.350 | 59.1 | 15.2 |
| 190-390 | 0.8 | 2.342 | 64.6 | 21.8 |
| 390-590 | 0.3 | 2.456 | 65.4 | 23.6 |
| Other classes | 0.2 | | | |
| UAR (1965) | | | | |
| Low Income class | | 2.204 | 71 | 15.0 |
| Middle Income class | | 2.818 | 84 | 18.0 |
| Higher Income class | | 3.130 | 98 | 37.0 |
| Tunisia (1964-67) | | | | |
| Income per person | | | | |
| Rural areas: | | | | |
| less than 20 | 8.2 | 1.782 | | |
| 20- 32 | 16.2 | 2.157 | | |
| 32- 53 | 30.8 | 2.525 | | |
| 53-102 | 32.4 | 2.825 | | |
| 102-200 | 10.9 | 3.215 | | |
| 200 and over | 1.5 | 3.150 | | |

Source: Data cited in David Turnham, The Employment Problem in Less Developed Countries: A Review of Evidence, OECD, Development Centre Studies, Employment Series No. 1 (Paris: 1971).

Table 6: POPULATION PER MEDICAL DOCTOR IN RURAL AND URBAN AREAS

| Country | Year | Population/Medical Doctor | | Urban Superiority in Doctors per Unit of Population |
|--------------------|---------|---------------------------|--------|--|
| | | Urban | Rural | |
| Honduras | 1968 | 1,190 | 7,140 | 6:1 |
| Jamaica <u>a/</u> | 1968 | 840 | 5,510 | 7:1 |
| Philippines | 1971 | 1,500 | 10,000 | 7:1 |
| Senegal <u>a/</u> | 1968 | 4,270 | 44,300 | 10:1 |
| Panama | 1969 | 930 | 3,000 | 3:1 |
| Colombia | 1970 | 1,000 | 6,400 | 6:1 |
| Ghana <u>a/</u> | 1968 | 4,340 | 41,360 | 10:1 |
| Iran | 1969/70 | 2,275 | 9,940 | 4:1 |
| Haiti <u>a/</u> | 1968 | 1,350 | 33,300 | 25:1 |
| Kenya | 1969 | 880 | 50,000 | 57:1 |
| Tunisia <u>a/</u> | 1968 | 2,912 | 10,056 | 4:1 |
| Pakistan | 1970 | 3,700 | 24,200 | 7:1 |
| Thailand <u>a/</u> | 1968 | 800 | 25,000 | 31:1 |

a/ Urban = capital city only.
Rural = all other rural and urban.

Source: IBRD, Background Paper on Health, Report No. 554a, October 1974, Appendix Tables 16 and 17, pp. 87-88.

Table 7: PRIMARY SCHOOL AVAILABILITY IN RURAL AND URBAN AREAS

Percentage of the total number of primary schools
in each category (rural and urban) which offer a
complete number of grades

| | Number of Countries | Complete Urban Schools as a % of Total Urban Schools | Complete Rural Schools as a % of Total Rural Schools |
|----------------------------------|------------------------|---|---|
| <u>Countries by GNP</u> | | | |
| <u>Per Capita</u> | | | |
| Up to \$120 (excluding India) | 9 | 53 | 36 |
| India | 1 | 57 | 49 |
| \$121 - 250 | 7 | 72 | 32 |
| \$251 - 750 | 16 | 77 | 62 |
| \$751 - 1,500 | 2 | 89 | 56 |
| Over \$1,500 | 6 | 100 | 99 |
| <u>By Major Regions</u> | | | |
| Africa | 16 | 79 | 54 |
| Asia (excluding India) | 9 | 94 | 66 |
| India | 1 | 57 | 49 |
| Latin America | 10 | 88 | 34 |
| Europe | 5 | 98 | 99 |

Source: Based on data in UNESCO, Statistical Yearbook, 1972.

Table 8: WORLD BANK LENDING FOR AGRICULTURE BY NUMBER OF PROJECTS
AND AMOUNT LENT, 1948 - 1974

| | (1) Number of Agricultural Projects | (2) Amount Lent for Agriculture | (3) Amount Lent per Project (2)/(1) | (4) Average Amount Lent per year | Agricultural Projects as a % of Total TRRD/IDA Proj. | Lending for Agriculture as a % of Total Lending |
|-----------|--|---------------------------------------|--|--|---|--|
| | | ----- US\$ Millions ----- | | | ----- Per Cent ----- | |
| 1948-1960 | 33 | 175.9 | 5.3 | 13.5 | 17 | 6 |
| 1961-1965 | 33 | 484.4 | 14.7 | 96.9 | 16 | 12 |
| 1966-1970 | 93 | 1,207.6 | 13.0 | 241.5 | 23 | 17 |
| 1971-1972 | 72 | 855.4 | 11.9 | 427.7 | 26 | 16 |
| 1973-1974 | 98 | 1,893.6 | 19.3 | 946.8 | 30 | 24 |

Table 9: WORLD BANK LENDING FOR AGRICULTURE, BY SUB-SECTOR, 1948-1974

| | 1948-60 | 1961-65 | 1966-70 | 1971-72 | 1973-74 | 1948-60 | 1961-65 | 1966-70 | 1971-72 | 1973-74 |
|-------------------------|---------------|--------------|---------------|--------------|---------------|------------|------------|------------|------------|------------|
| | US\$ millions | | | | | Per Cent | | | | |
| General Agriculture | 43.9 | - | 15.0 | 13.5 | 24.0 | 25 | - | 1 | 1 | 1 |
| Agricultural Credit | 20.2 | 45.0 | 183.2 | 255.8 | 240.3 | 11 | 9 | 15 | 30 | 13 |
| Area Development | 10.0 | 9.7 | 100.4 | 51.6 | 272.6 | 6 | 2 | 8 | 6 | 14 |
| Irrigation | 85.1 | 383.8 | 513.2 | 201.3 | 621.9 | 48 | 79 | 43 | 24 | 33 |
| Livestock | 7.0 | 35.3 | 252.4 | 176.7 | 314.9 | 4 | 7 | 21 | 21 | 17 |
| Agricultural Industries | 4.7 | - | 19.2 | 39.6 | 204.0 | 3 | - | 2 | 5 | 11 |
| Non-food Crops | - | 2.8 | 86.8 | 95.4 | 167.3 | - | 1 | 7 | 11 | 9 |
| Research | - | - | - | 12.7 | - | - | - | - | 1 | - |
| Fisheries | - | 7.8 | 21.0 | 8.9 | 28.6 | - | 2 | 2 | 1 | 1 |
| Forestry | 5.0 | - | 16.4 | - | 20.0 | 3 | - | 1 | - | 1 |
| Total | 175.9 | 484.4 | 1207.6 | 855.5 | 1893.6 | 100 | 100 | 100 | 100 | 100 |

Table 10: WORLD BANK LENDING FOR AGRICULTURE BY PER CAPITA GNP OF BORROWING COUNTRIES

| Per Capita GNP of Borrowing Countries | FY64-68 | | | | FY69-74 | | | |
|--|-----------------------------------|-------------------|------------------|--------------|-----------------------------------|-------------------|------------------|--------------|
| | Agriculture Lending IBRD & IDA | | As % of Total | | Agriculture Lending IBRD & IDA | | As % of Total | |
| | Number of Projects | Amount (US\$M) | Projects % | Amount % | Number of Projects | Amount (US\$M) | Projects % | Amount % |
| Less than \$150 | 9 | 138.8 | 20.5 | 22.5 | 101 | 1356.0 | 43.7 | 38.2 |
| \$151-\$375 | 18 | 173.8 | 40.9 | 28.2 | 78 | 1069.7 | 33.8 | 30.1 |
| \$376-\$700 | 13 | 251.2 | 29.6 | 40.8 | 30 | 782.1 | 13.0 | 22.1 |
| Over \$700 | 4 | 52.0 | 9.0 | 8.5 | 22 | 341.8 | 9.5 | 9.6 |
| Total | 44 | 615.8 | 100.0 | 100.0 | 231 | 3549.6 | 100.0 | 100.0 |

Source: IBRD, World Bank Atlas, 1973

Table 11: IBRD/IDA LENDING FOR AGRICULTURE AND RURAL DEVELOPMENT,
FY68 - FY74 ^{a/}

| | FY68 | FY69 | FY70 | FY71 | FY72 | FY73 | FY74 | TOTAL |
|--|-------|--------|--------|--------|--------|--------|--------|----------|
| RURAL DEVELOPMENT ^{b/} | | | | | | | | |
| <u>Agriculture</u> | | | | | | | | |
| No. of Projects | 5 | 3 | 6 | 10 | 12 | 17 | 25 | 78 |
| Loans (US\$M) | 29.1 | 51.8 | 53.1 | 66.6 | 121.4 | 246.8 | 449.8 | 1,018.6 |
| <u>Multi-Sector ^{c/}</u> | | | | | | | | |
| No. of Projects | 1 | - | - | 1 | 1 | 1 | 6 | 10 |
| Loans (US\$M) | 14.0 | - | - | 8.1 | 2.2 | 21.0 | 59.5 | 104.8 |
| <u>Single Sector</u> | | | | | | | | |
| No. of Projects | 4 | 3 | 6 | 9 | 11 | 16 | 19 | 68 |
| Loans (US\$M) | 15.1 | 51.8 | 53.1 | 58.5 | 119.2 | 225.8 | 390.3 | 913.8 |
| <u>Education</u> | | | | | | | | |
| No. of Projects | - | - | 1 | 1 | - | 2 | 3 | 7 |
| Loans (US\$M) | - | - | 1.5 | 3.3 | - | 9.0 | 23.8 | 37.6 |
| <u>Roads</u> | | | | | | | | |
| No. of Projects | - | - | 2 | - | 2 | - | - | 4 |
| Loans (US\$M) | - | - | 25.6 | - | 23.5 | - | - | 49.1 |
| <u>Total Rural Development</u> | | | | | | | | |
| No. of Projects | 5 | 3 | 9 | 11 | 14 | 19 | 28 | 89 |
| Loans (US\$M) | 29.1 | 51.8 | 80.2 | 69.9 | 144.9 | 255.8 | 473.6 | 1,105.3 |
| OTHER AGRICULTURE (excluding predominantly agricultural rural development lending) | | | | | | | | |
| No. of Projects | 8 | 24 | 25 | 26 | 24 | 29 | 31 | 167 |
| Loans (US\$M) | 143.4 | 315.5 | 359.8 | 352.5 | 314.9 | 690.9 | 506.1 | 2,683.1 |
| TOTAL AGRICULTURE | | | | | | | | |
| No. of Projects | 13 | 27 | 31 | 36 | 36 | 46 | 56 | 245 |
| Loans (US\$M) | 172.5 | 367.3 | 412.9 | 419.1 | 436.3 | 937.7 | 955.9 | 3,701.7 |
| TOTAL AGRICULTURE AND RURAL DEVELOPMENT | | | | | | | | |
| No. of Projects | 13 | 27 | 34 | 37 | 38 | 48 | 59 | 256 |
| Loans (US\$M) | 172.5 | 367.3 | 440.0 | 422.4 | 459.8 | 446.7 | 979.7 | 3,788.4 |
| OTHER IBRD/IDA | | | | | | | | |
| Loans (US\$M) | 781.0 | 1417.0 | 1846.0 | 2058.0 | 2506.1 | 2461.0 | 3333.9 | 14,403.0 |
| TOTAL IBRD/IDA | | | | | | | | |
| Loans (US\$M) | 953.5 | 1784.3 | 2286.0 | 2480.4 | 2965.9 | 3407.7 | 4313.6 | 18,191.4 |

^{a/} Data refer to original commitments and no cancellations and refundings are taken into account. Information used for the classification of rural development projects is based on project appraisal reports. However, it must be noted that many appraisal reports are deficient in information for this classification, e.g. lacking in income distribution data on project beneficiaries.

^{b/} Projects for which there is an expectation that 50% or more of primary (direct) benefits would accrue to the rural poor.

^{c/} Projects involving two or more sectoral components with the dominant sectoral component constituting less than 75% of the net project cost (i.e. cost excluding contingencies and components which are not integral parts of the project). In all multi-sectoral projects designated as rural development projects, agriculture is the predominant sector and the Programming and Budgeting Department has classified them all under agriculture. Basically small farmers.

Table 12: RELATIVE SHARE OF AGRICULTURAL AND RURAL
DEVELOPMENT IN TOTAL BANK LENDING, FY68-74

| | FY68 | FY69 | FY70 | FY71 | FY72 | FY73 | FY74 | Total |
|---|----------------------|------|------|------|------|------|------|-------|
| | ----- Per Cent ----- | | | | | | | |
| <u>As Per Cent of Total Agriculture Lending</u> | | | | | | | | |
| Rural Development Agriculture | | | | | | | | |
| Projects | 38.5 | 11.1 | 19.4 | 27.8 | 33.4 | 37.0 | 44.6 | 31.9 |
| Lending | 17.0 | 14.1 | 12.9 | 15.9 | 27.8 | 26.3 | 47.0 | 27.5 |
| Of which: Multi-sector | | | | | | | | |
| Projects | 7.7 | - | - | 2.8 | 2.8 | 2.2 | 10.7 | 4.1 |
| Lending | 8.1 | - | - | 1.9 | 0.5 | 2.2 | 6.2 | 2.8 |
| Single-sector | | | | | | | | |
| Projects | 30.8 | 11.1 | 19.4 | 25.0 | 30.6 | 34.8 | 33.9 | 27.8 |
| Lending | 8.9 | 14.1 | 12.9 | 14.0 | 27.3 | 24.1 | 40.8 | 24.7 |
| <u>Percent of Total IBRD/IDA Lending</u> | | | | | | | | |
| Total Rural Development Lending (both agriculture and non- agriculture) | 3.0 | 2.9 | 3.5 | 2.8 | 4.9 | 7.5 | 11.0 | 6.1 |
| Total Agriculture Lending | 18.1 | 20.6 | 18.1 | 16.9 | 14.7 | 27.5 | 22.2 | 20.3 |
| Total Agriculture and Rural Development Lending | 18.1 | 20.6 | 19.2 | 17.0 | 15.5 | 27.8 | 22.7 | 20.8 |

Source: Calculated from Table 11.

Table 13: ESTIMATED RURAL POPULATION IN POVERTY BY REGION AND COUNTRY
INCOME LEVEL, 1974 a/

| Region | Rural Poverty Population in Countries with Incomes up to \$200 per Capita <u>b/</u> | Rural Poverty Population in Other Developing Countries | Total Rural Poverty Population |
|-------------------------|---|--|--------------------------------------|
| - millions of persons - | | | |
| East Africa | 60 | - | 60 |
| West Africa | 15 | 35 | 50 |
| South Asia | 270 | - | 270 |
| East Asia | 10 | 105 | 115 |
| EMENA | 5 | 30 | 35 |
| LAC | - | 50 | 50 |
| Total | 360 | 220 | 580 |

a/ Estimates made by applying assumed population growth rates by region to figures for 1969. The regional breakdown in this table corresponds to the geographical divisions of the Regional Offices of the Bank and are not precisely comparable to the area breakdown of Table 1.

b/ Excludes some countries with low income per capita, but with large external receipts through oil (e.g., Indonesia, Nigeria).

Table 14: A COMPARISON OF THE DISTRIBUTION OF THE RURAL POOR BY REGION AND PROSPECTIVE BANK LENDING FOR AGRICULTURE AND RURAL DEVELOPMENT

| | (1) Distribution or Rural Poor 1974 | (2) Distribution of Projected Lending for Agriculture and Rural Development FY75-79 | (3) Allocation of Agriculture and Rural Development Lending implied by (2) FY75-79 | (4) Allocation of Agriculture and Rural Development Lending implied by (1) FY75-79 |
|-------------------------|--|---|--|--|
| | % | % | - US\$ millions(1974 prices) - | - US\$ millions(1974 prices) |
| Eastern Africa | 10.3 | 11.1 | 800 | 750 |
| Western Africa | 8.6 | 10.2 | 750 | 600 |
| East Africa and Pacific | 19.8 | 18.3 | 1300 | 1450 |
| South Asia | 46.6 | 19.3 | 1400 | 3350 |
| EMENA | 6.0 | 18.2 | 1300 | 450 |
| LAC | 8.6 | 22.9 | 1650 | 600 |
| Total | 91.9 | 100.0 | 7200 | 7200 |

Source: Column (1) from Table 13; Column (2) from Policy Planning and Program Review Department Calculations; projected total of lending in Columns (3) and (4) as described in text paragraphs 3.19-3.21.

Table 15: FY75 AGRICULTURE AND RURAL DEVELOPMENT SECTOR WORK ^{a/}

| Region | Sector | Sub-Sector | Other |
|--------------------------------------|-------------|-------------|-------------|
| East Asia and Pacific | - <u>b/</u> | 1 <u>h/</u> | 1 <u>k/</u> |
| South Asia | 3 <u>c/</u> | - | - |
| Eastern Africa | 2 <u>d/</u> | - | - |
| Western Africa | 4 <u>e/</u> | 2 <u>i/</u> | 1 |
| Europe, Middle East and North Africa | 1 <u>f/</u> | 2 <u>j/</u> | 4 <u>l/</u> |
| Latin America and Caribbean | 4 <u>g/</u> | - | - |
| | 14 | 5 | 6 |

a/ Does not include sector work undertaken in conjunction with appraisal and supervision missions.

b/ Sector work on Indonesia, Malaysia, and the Philippines will be carried out by staff attached to Economic Missions.

c/ Nepal, Burma, and possibly Pakistan.

d/ Sudan and Zambia. Lesotho, Swaziland, and Madagascar in FY76.

e/ Dahomey, Ivory Coast, Cameroon, and Senegal.

f/ Afghanistan.

g/ El Salvador, Guatemala, Nicaragua, and Costa Rica--all jointly with USAID and IADB.

h/ Malaysia - Smallholder sector review.

i/ Regional studies (mainly the Sahelian zone) of Forestry and Livestock. The Forestry study will include Ivory Coast, Ghana, Cameroon, and the Democratic Republic of the Congo, and may also include Liberia, Niger, Gabon, and the Central African Republic.

j/ Livestock and Fruits and Vegetable sub-sector surveys in selected countries of the Middle East.

k/ A Review of selected aspects of regional and rural development in the Philippines.

l/ Special missions to Egypt and Romania; an economic-regional (Macedonia) development study in Yugoslavia; a rural and regional development study in Tunisia.

