A PROPOSED USAID APPROACH FOR AGRICULTURAL DEVELOPMENT IN LESOTHO: 1985 - 2000

AN INTERNAL ASSESSMENT*

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G L O S S A R Y

ABFOL	Anglo de Beers Forest Services (Lesotho)
ADB	African Development Bank
BASP	Basic Agricultural Services Project
CIDA	Canadian International Development Agency
DANIDA	Danish International Development Agency
EEC	European Economic Community
EDF	European Development Fund
FAO	Food and Agriculture Organization
FRG	Federal Republic of Germany
FFW	Food for Work
GDP	Gross Domestic Product
GOL	Government of Lesotho
IBRD	World Bank
IDA	International Development Association
IEMS	Institute of Extra Mural Studies
IFAD	International Fund for Agricultural Development
LAC	Lesotho Agricultural College
LDC	Less Developed Country
LDTC	Lesotho Distance Teaching Center
LNDC	Lesotho National Development Corporation
M	Maloti
MOA	Ministry of Agriculture
MOCRD	Ministry of Cooperatives and Rural Development
NUL	National University of Lesotho

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GLOSSARY, (continued)

ODA	Overseas Development Agency
R	Rand
RAPID	Resources for the Awareness of Population Impacts on Development
ROC	Republic of China (Taiwan)
RSA	Republic of South Africa
SACU	Southern Africa Customs Union
SIDA	Swedish International Development Agency
TOU	Technical Operations Unit
UNDP	United Nations Development Program
USAID	United States Agency for International Development (Lesotho)
USCC	United States Catholic Conference
WFP	World Food Programme

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I N T R O D U C T I O N

As an element in USAID/Lesotho's overall planning strategy, this document attempts to present possible options in the agriculture sector during the period 1985-2000. The paper commences with a review of the current status of agriculture in Lesotho, presents the Government of Lesotho's objectives, and analyzes the development resources available to agriculture from the Government and the donor community. Based on such information, the paper proceeds to project sector needs to the year 2000, indicating basic assumptions and critical linkages. Finally, the paper presents a recommendation for USAID consideration. The recommendation is made using identified criteria.

I. LESOTHO AGRICULTURE

A. Basic Elements

Attracted by the opportunity of working in the Republic of South Africa (RSA) where yearly incomes average R1,400 or remaining in agriculture for an average farm family yearly income of approximately M137, Lesotho's farmers have made the obvious choice. The result has been stagnation of agriculture production and a decline in its contribution to the nation's development coupled with increasing dependence on the RSA for food. In 1979/80 agriculture contributed only 30.6 percent of gross domestic product, a reduction of 7.2 percent in only five years. Over the period 1967/68 to 1974/75, agriculture's contribution to GDP after adjustment for inflation increased from M16.69 million to M24.54 million (1970/71 = 100); an annual compound growth rate of 5.7 percent. After the RSA promulgated a series of increases in migrant wage rates, Lesotho's agriculture stagnated. Between 1974/75 and 1979/80, real agriculture GDP grew at a compound rate of only 0.5 percent.

During the period 1969/70 to 1979/80 the area planted to crops decreased 118,500 hectares; 34 percent of the 1969/70 area. Because, fortunately, labor input per unit of land increased and less productive lands were fallowed, it appears that yields may have increased with the result that total crop production appears not to have fallen greatly. Between 1974/75 and 1979/80, real GDP from crop production grew only 1.0 percent annually. Highly variable annual output makes trends very unclear over only a ten year time span. However, it is clear that cereal production per capita has fallen, from 305 kg. in 1960/61 to 205 kg. in 1970/71 and to 169 kg. in 1980/81.

There also is evidence that there is a growing class of rural landless. The smallest 20 percent of rural households hold only 5.3 percent of all arable land while the largest 20 percent hold 37.5 percent of all arable land. There is some evidence that the disparity is increasing.

Livestock contribution to GDP increased from M6.1 million to M16.7 million between 1967/68 and 1974/75 in current prices, and from M6.6 million to M12.9 million in real prices; an increase of 10.0 percent per annum. From 1974/75 to 1979/80, the rate of increase fell to 2.6 percent per annum. Through the latter half of the 1970s the national herd, as measured in livestock units, decreased in size. This disguises a change in the composition of the herd; small ruminant numbers declined while cattle numbers increased. This is widely interpreted as a shift from animals held for productive purposes to cattle which are held as a means of savings and for prestige purposes within Basotho society. Livestock may also be viewed as providing a hedge against inflation in a society where land is not privately held and thus cannot provide an inflation hedge as it does in other societies.

As a result of the failure of the sector to meet increased demand generated by population and income growth, food imports have increased

dramatically. From 1970 to 1976 food and livestock imports increased over six-fold in value in current Maloti and 3.5 times in value in real terms. During the same period the real value of exports declined 6 percent although the current value increased 71 percent due to inflation. The agricultural trade deficit increased from M2.5 million to M32.1 million.

B. Future Trends

Over the next twenty years, even greater demands will be placed on the agricultural sector. This will arise from three primary sources: continued growth in population, stable or declining employment in the RSA, and increased demand for food as a result of increased consumer income. Population, growing at 2.3 percent, is projected to increase from 1.3 million in 1980 to 2.3 million in 2000; an increase of 77 percent. If the GOL continues to set high priority on achieving self-sufficiency in grains, production will have to increase substantially if the proportion of Lesotho's food supply imported from the RSA is not to rise above its current 50 percent. If the amount of food imported from the RSA is to be maintained at its current level, then Lesotho must increase its food production 242 percent.

A second major element of change during the next 20 years will be a reversal of the previous trend toward increased employment in the RSA. From 1967 to 1976 employment in the mines increased at a compound annual rate of 8.7 percent. From 1976 to 1979 it fell at an annual rate of 16.6 percent. Migrant employment is predicted to decline by 50 percent between 1976 and 2000; a 2.8 percent annual rate of decline. This will have two major impacts: a decline in migrant remittances from the RSA and increased numbers of Basotho seeking employment at home. Assuming that modern sector employment grows, according to GOL targets, at 5 percent per annum (substantially higher than has been achieved in the recent past) -and that the agriculture sector must absorb the remaining workers--20,000 new jobs in the sector must be created annually over the next 20 years. Thus in order to avoid massive unemployment and falling per capita income, Lesotho's agricultural sector must increase its labor absorptive and income generating capacity.

If Lesotho not only avoids a decline in per capita income, but modestly increases it, food consumption will increase. Without equivalent increases in food production, dependency on imported food will be even greater. Estimates are that with a 2½ percent annual increase in per capita income and 2.9 percent increase in de facto population, then grain consumption will increase from 244,860 metric tons to 456,619 metric tons, an annual increase of 3.2 percent. As Lesotho has been importing about 125,000 metric tons in recent years, domestic production (given the current GOL goal of food self-sufficiency) would have to increase from a recent average of 232,000 tons to 442,000 tons to avoid increased imports (assuming a total of 25 percent is lost in

*According to figures from National Manpower Office.

harvest and post harvest, used for seed and fed to livestock). This would require an annual increase in production of 3.2 percent, which though not impossible, would nevertheless represent a remarkable achievement noting that such increases have been rarely achieved over a sustained time period.

C. Problems/Constraints

The major constraints identified in the agricultural sector are the (1) limited and declining land resource base, (2) relatively underdeveloped state of agricultural institutions and lack of skilled manpower, (3) low level of agricultural technology, (4) inadequate agricultural policies, and (5) limited public finance for recurrent costs. These major developmental constraints, which are closely linked and interdependent, are discussed below.

1. Limited and Declining Land Resource Base. Soil erosion is one of the most significant agricultural problems in Lesotho, affecting both the mountain grazing lands (75 percent of total land area) and the limited arable lands (13 percent of total land area) located primarily in the lowlands. Annual soil loss due to sheet erosion on arable land is more than 70 metric tons per hectare. In addition, it is estimated that 4 percent of the arable land has already been lost to gullies, and that another 0.25 percent (1,000 hectares) is lost annually to new gullies and to growth of old ones. Extensive erosion is also apparent on the mountain grazing lands. There has been increased cultivation of marginal land on steep slopes, highly susceptible to erosion. Rangelands have been severely overgrazed due to excessive overstocking, resulting in depletion of vegetative cover with consequential widespread erosion.

2. Underdeveloped Agricultural Institutions and Lack of Skilled Manpower.

Organizations responsible for improving agricultural production (especially the MOA) are affected by a continual search for an effective organizational structure. A sweeping reorganization of the MOA has been completed recently but it is too early to judge whether improved efficiency will result.

Essential coordinating linkages with other organizations or offices within the agricultural sector, such MOCRD, TOU, LNDC, Coop Lesotho, IEMS, NUL, and LDTC are frequently weak or nonexistent. Moreover, many of the units within the MOA have responsibilities which overlap within MOA or overlap with external units.

Of particular concern are the overlapping responsibilities of the Crop and Livestock Divisions with those of the Extension and Research Divisions. Crops and Livestock contain 37 percent of MOA's technical staff while Research and Extension have only 27 percent.

The decentralization program currently underway further weakens the planning, analysis and administrative capacities of the MOA. Implementation in the districts is being attempted in research, extension, input supply, marketing and credit, without sufficient personnel.

Severely compounding these institutional weaknesses are the problems of the quality and quantity of present trained manpower and the availability of basic educational skills related to agriculture within the farmer/herder population. If present trends continue, the identification of sufficient numbers of qualified candidates for higher degree training will remain very difficult far into the future. Much will depend on development of primary, secondary and remedial programs within the eudcation sector (and a long-term development program for LAC) if sustained progress is to be made in the agriculture sector in the long-run.

3. Low Level of Agricultural Technology. Stagnation of production at low levels is largely a direct result of inadequate and inappropriate farm technology. Simple farm practices that do not require substantial capital outlay by farmers--such as appropriate planting dates, plant population, planting depth, spacing, and weeding--are not extensively employed with the result that yields in Lesotho are among the lowest in the world. This is partly due to the dearth of agricultural research and the lack of effective institutions to disseminate knowledge and provide supporting services to farmers. For example, poor tillage methods and planting techniques can be attributed to insufficient and, in some cases, poorly designed, crude farming tools.

4. Lack of Agricultural Policies for Long-Term, Sustained Development. Farmers have been unwilling to invest in agricultural production because the government has not yet developed consistent policy and price incentives encouraging investment. Inadequate domestic agricultural policies are the result of a limited institutional capability to formulate and analyze policies and to prepare and evaluate program implications of development activities (see paragraph 2 above). These are critical impediments to the formulation of agricultural policies.

A prime example of the need to develop policy and its underlying analysis is the question of agricultural self-sufficiency and improved cereal production in general. A large proportion of agricultural investment in Lesotho is directed toward increased cereals production despite the fact that income earned in cereal production is not at present and will not in the future be competitive with other income earning opportunities, especially that provided by mine employment in the RSA. Significant gains in agricultural incomes will only come from producing high value cash crops, particularly those that can take advantage of seasonal differences between Lesotho and major markets; and from livestock.

5. Limited Public Finance for Recurrent Costs. During fiscal years 1981/82 to 1983/84, GOL revenues will only marginally increase and will fall in real terms. Funding of local recurrent and capital costs of new development projects will be extremely difficult, and

if new projects are initiated, may result in increasing national debt. If growth in expenditures is not matched by increased revenues from new sources or more efficient collection from old sources, debt service costs may limit investment in development activities well into the future.

D. Snapshot of Agriculture in the Year 2000

Given the present situation and assuming many of the trends, constraints and problems continue unchecked, Lesotho's position in the year 2000 could be dismal indeed. Grazing lands would be severely deteriorated by heavy overgrazing. Arable land would have diminished absolutely by 5 percent. Progressive degradation in the quality of remaining soils would continue unabated. The population would surpass 2 million. People would extract near-starvation levels of food production from the depleted land. Unemployment or severe under-employment would be pervasive. Perhaps one adult in two would be gainfully employed. Many of the unemployed would move to Maseru and larger towns, compounding urban problems. Squalid shanty towns consisting of unsafe and unhealthy agglomerations of poor would proliferate.

Because income per capita would fall in the order of 25 percent while income distribution would become more unequal, many people would live at the margin of existence. In years of poor harvests, famine would be a real possibility, the poor lacking resources to buy food. Dependency on the RSA for food would increase to the point where 70 to 75 percent of the nation's food supply would be imported. A majority of Basotho, unskilled and untrained, would live a life of unemployed poverty, huddled in substandard shelter with inadequate diets, and in poor health. These conditions would likely contribute to political instability in Lesotho.

The strategy and recommendation for USAID support to the agriculture sector presented in this paper are specifically addressed to the need to assist in the reversal of these trends.

II. CURRENT GOL GOALS/OBJECTIVES/STATUS

The presentation of goals in "agricultural Development - A Blue Print for Action" (November, 1980) remains the most coherent approved statement of GOL agricultural policy.

A. Decentralization

The MOA has followed the national commitment to decentralize by creating district agricultural staffs whose mandate is to secure a greater involvement of the rural people in participating in increased agricultural production.

Comment: Insufficient trained manpower has restricted the implementation of this decentralization strategy to the provision of skeleton staffs in each district in the attempt to motivate rural agricultural production.

B. Food Self-Sufficiency

The GOL views increased agricultural production leading to food self-sufficiency as critical in reducing immediate dependency on the RSA. Ingredients in achieving food self-sufficiency include research, extension and marketing in both agricultural cropping and livestock.

Comment: The GOL has achieved (or should shortly achieve) maize self-sufficiency, although at great cost, through a project utilizing sophisticated capital intensive production methods. Equivalent progress in other areas depends on unfulfilled initiatives in research, extension and marketing.

C. Expanded Rural Employment

Mindful of population growth, migration patterns and the agricultural heritage of Lesotho, the MOA seeks to promote gainful employment opportunities in agriculture for the rural population. Recent changes in the laws and regulations governing use of both crop and grazing lands are intended to stimulate investment in production and soil conservation and to reduce the incidence of overgrazing.

Comment: Given a plentiful (and increasing) labor supply, utilization of labor intensive techniques are to be encouraged. Efforts in this area rely on increases in overall agricultural production noted in the above paragraph where initial success has been based on capital-intensive techniques and prospects for eventual adoption of labor - intensive techniques are poor.

D. Land Rehabilitation and Stabilization

Past activities by the MOA in soil conservation will be continued with special emphasis being placed on the involvement of farmer and herder actively following conservation practices.

Comment: Although physical conservation structures continue to be built, the active involvement of the rural population, especially in grazing control and reduction of herd size, is limited by the dearth of district extension personnel and particularly, the cultural value attached to owning large numbers of livestock. Also, it appears that the majority of livestock currently on the range are owned by a very small minority of leaders in Lesotho society. It is unlikely that rural herders will agree to reduce their livestock numbers unless Lesotho's leadership sets the example. Enhanced livestock marketing mechanisms, integrated with the abattoir, could be of significant benefit.

E. Provision of Efficient Support Services

The MOA acknowledged the need for training, planning and management in the support services areas which will increase the efficiency of research, extension and marketing services essential for achieving food self-sufficiency and rural employment.

Comment: Initiatives in reorganization of the MOA, effective decentralization and internal coordination remain incomplete, in part due to a lack of planning and coordination by trained personnel. The resulting situation is one in which support services are foundering pending completion of reorganization plans and availability of trained personnel.

F. Mobilization of Financial Resources

The MOA intends that its reorganization should enable it to become more effective in coordinating donor funding as well as inducing private investment from within Lesotho.

Comment: However, there is not, at this time, any cohesive action plan for formulating policies to encourage and support progress in these areas, although the GOL appears to have recognized these problems and is attempting to formulate remedial activities.

III. DEVELOPMENT RESOURCES

In undertaking development projects the GOL can call upon both its own resources and those provided by the donor community. Such resources are both financial and human. These resources are reviewed below in the context of present availabilities and limited trends which may be extrapolated into the future.

A. GOL Resources

In the Second Five Year Plan, the GOL allocated M33.2 million or 25.5 percent of its development budget to the agricultural sector. Allocations in the Third Five Year Plan are projected at M111.4 million or 22.7 percent of the budget. Although the absolute percentage of investment in agriculture shows a decline, a major increase in transport infrastructure (from 19.2 to 31.6 percent) can be considered as supportive of agricultural development.

Agriculture received recurrent budget support of M5.6 million, M8.3 million, M9.8 million and M9.8 million respectively for the years 1978/79 to 1981/82. Recurrent budget projections for 1982/83 are M8.8 million.

In terms of human resources, the GOL has allocated 2,261 civil service positions to the MOA as of 1981/82. (The position in 1982/83 remains the same because hiring is frozen, even to fill vacancies estimated at

25 percent.) These personnel totals are comparable with MOA civil service levels of 2,802 in 1979/80 which included personnel now assigned to MORDC and TOU. The vacancy rate during that period was 27 percent.

The quality of available human resources has been a concern of the GOL. Approximately 66 individuals have been sent abroad since 1976 for specialized training in agriculture (95% of these by USAID) and an additional 52 are currently being trained (11 of these depart in June/July 1982) for return to Lesotho in the coming three years.

B. Future GOL Resources

Over the past decade, approximately 60 percent of GOL revenues were derived from customs duties, 20 percent from other sources (primarily corporate and personal income taxes), and 20 percent from donors. Growth of recurrent expenditures has been dependent on increases in receipts from the Southern African Customs Union (SACU). During 1978/79 and 1979/80, as the result of an imposition of a temporary 15 percent surcharge, revenues increased by an average annual rate of 42.3 percent. However, the surcharge has been gradually reduced resulting in a slight drop in customs revenue from 1979/80 to 1981/82. Only an 8 percent increase is projected for 1982/83. In real terms, this represents a 25.1 percent decrease from 1979/80. Revenues in 1983/84 are also expected to increase only slightly in nominal terms and again to fall in real terms. As a result the government is attempting to minimize growth of recurrent expenditure over this time span. Only 0.2 percent of the 1982/83 budget has been allocated for support of new recurrent expenditures. The GOL predicts that in 1984/85 customs union receipts are again expected to resume a normal growth pattern in response to increases in imports and other revenue sources. The Government also has announced that a sales tax will be implemented during the latter half of 1982/83. GOL is also making efforts to increase the collection of income taxes, the second most important domestic source of revenue, and is currently debating ways to improve internal financial management. An untapped source of revenue is the taxation of migrants' incomes which could be efficiently collected at the source. For each one percent of income taxed, revenues of approximately M2,000,000 would be generated.

However, the availability of funds for increasing the recurrent budget later in the decade will be a function of the degree to which the government is successful in restricting expenditure growth and debt financing during 1982/83 and 1983/84. If large debts are accumulated during this period, increased revenues will be absorbed in debt servicing.

Forecasting for agricultural development financing is even more difficult. The Third Five Year Plan calls for an annual increase of 9.4 percent from a base of M17.7 million in 1980/81 to M25.4 million in 1984/85. Extrapolation of this rate of growth to the following five year period leads to

an agricultural development budget during the Fourth Five Year Plan of: (in Maloti millions)

1985/86	27.8
1986/87	30.4
1987/88	33.3
1988/89	36.4
1989/90	39.9
Total	167.8

However, given the pervasive budgetary difficulties of the current period, it is highly unlikely that targets for the Third Five Year Plan will be achieved and even less likely that the above projected expenditures are realistic.

C. Other Donors

Donor funding, including pipeline, presently committed for current and future agricultural development projects in Lesotho totals M99,703,390. Of this amount, USAID has committed 26 percent. The next three largest donors are IBRD/IDA, the Republic of China, and Great Britain, each contributing 11 to 12 percent of donor loans and grants. IFAD is the source of another 7 percent while all remaining donors contribute less than 5 percent (see Table 1).

Twenty-six percent of all funds go to BASP and other area development projects. These projects entail a mix of outputs including training, extension/production, research, infrastructure, and marketing which cannot readily be disaggregated. Categorizing all other projects according to their major purpose, marketing/agro-industry (21 percent), extension/production (19 percent), and conservation/energy (19 percent) are the next three most important. Funds allocated to the areas of research, planning and agricultural education represent about 15 percent of total donor assistance. Some general observations can be drawn from these data:

- Funding for building Lesotho's institutional capacity and human and physical resource base is totally inadequate.
- Only AID emphasizes building Lesotho's resource and institutional base. ODA, UNDP, ABFOL and SIDA/FAO provide relatively small amounts for this purpose.
- In spite of repeated observations that area based projects (e.g. BASP) and agricultural production projects (e.g., TOU) have been disappointing, they continue to be favored by the GOL and the donors.
- Marketing projects tend to concentrate on providing facilities and are non-operational in some instances, e.g., Danish abbatoir, notwithstanding very large sums provided by donors and support through GOL with its scarce resources. Little investment is made in institutional management and planning capacity.

DONOR COMMITMENTS TO LESOTHO'S
AGRICULTURE SECTOR
(For Current and Future Projects, including Pipeline)

	Planning	Conservation Energy	Research	Extension Production	Education Training	Marketing Agroindustry	Area Comprehensive	Total	%
				($000)					
AID	4,588	15,081	6,147					25,816	25.9
ODA	153	2,984		2,486	995	658	3,696	10,972	11.0
UNDP	1,073			208	321	1,459	242	3,303	3.3
ABFOL		1,586						1,586	1.6
SIDA/FAO		104	522	444				1,070	1.1
CWFTL	15							15	0
ROC/GOL				11,568				11,568	11.6
Ireland				1,151				1,151	1.2
EEC				2,893				2,893	1.9
RSA				127				127	0.1
FRG				222			2,982	3,204	3.2
USCC						154		154	0.2
IBRD/IDA						190	11,697	11,887	11.9
CARE						4,628		4,628	4.6
DANIDA						2,860		2,860	2.9
ADB						4,512		4,512	4.5
GOL/IFAD						6,500		6,500	6.5
EDF							3,270	3,270	3.3
CIDA							4,186	4,186	4.2
TOTAL	5,829	19,755	6,669	19,099	1,316	20,961	26,073	99,702	
%	5.8	19.8	6.7	19.2	1.3	21.0	26.2		

The relative emphasis on directly productive projects is a response by donors to their own development priorities and the priority of the GOL for achieving self-sufficiency in food production as rapidly as possible. Little recognition is given to the need to first develop the institutional and human capacity to operate production projects and to develop the knowledge base requisite to increasing agricultural productivity. The primary and secondary schools do not provide for vocational agriculture training. LAC is the only institution in Lesotho at present which provides training in agriculture. The lack of trained personnel is the most severe constraint to the long-term development of agriculture in the country.

There is a lack of simple improved technological packages in agriculture. Donors have continued to fund area-based programs without recognition that the absence of such packages cannot be compensated for by provision of intensive services. Until such time as the GOL and the other donors recognize this problem and create more institutional and resource capacity, long-term, sustainable agricultural development will proceed very slowly in Lesotho.

D. USAID Existing Activities

The present portfolio of USAID activities which relate to the agricultural sector are described below.

1. Agricultural Planning -- 1980-1987. This project is intended to provide the MOA with an institutionalized planning system fully staffed by Basotho. This planning capability will be achieved by (a) refining an organizational structure to serve the Ministry's planning needs, (b) staffing the structure with qualified personnel and (c) refining and solidifying planning procedures and methodology for use by the MOA. The existence of a proven planning capability in the MOA will permit it to coordinate donor inflows with Basotho resources effectively, to analyze its policy options, and to align resource allocations coherently with the institutional and structural requirements of agricultural development. This project is viewed by USAID as the most important in the portfolio. Should project objectives fall short of the mark, serious questions will be raised about the ability of the GOL to reach long-term objectives in all agricultural projects.

2. Land Conservation and Range Development -- 1980-1987. This project continues land conservation activities which have been on-going in various forms for more than 40 years with assistance from various donors. Project activities include expansion of a program to (a) build soil conservation structures in conjunction with a new program to prepare and implement on-farm cropping and conservation plans with farmer participation; (b) develop and pilot test technical procedures for management and improvement of rangelands; and (c) initiate a soil mapping program. The MOA hopes to have the institutional capability to convert prototype range management activities into a nation-wide program of range management by 1990. Farmland conservation plans will draw upon research findings to enhance agricultural production while preserving the quality of existing land resources.

3. Farming Systems Research -- 1978-1984. Despite considerable skepticism, this project is expected to assist the MOA's Research Division to devise more productive farm enterprise mixes which are acceptable to farmers, within the farmers' managerial ability, appropriate to the resources available and protective of the land base. Farmers will be introduced to these new enterprise mixes through mass-media campaigns followed by the systematic efforts of the Extension Division and the technical support staff. Currently, initial adaptive research and testing are being carried out in a series of potential technical "packages" although no complete packages are yet available for dissemination to farmers.

4. Food for Work. AID participates with the World Food Program in supporting a continuing Food for Work program that includes labor intensive projects in soil and water conservation, road construction and maintenance, irrigation, dam construction, tree planting, foot bridge and donkey path construction and repairs to and construction of rural clinics. The program has been effective in mobilizing large numbers ($\pm$ 10,000) of rural workers to participate in these labor intensive activities.

5. Southern Perimeter Road -- 1978-1984. This project provides for reconstruction and up-grading of the major road link in the south of Lesotho. This link will be a major factor in providing access for the rural population in the area (constituting 25 percent of Lesotho's population) to obtain agricultural inputs and market outputs. Construction activities are currently underway and, when completed, will complement Food for Work road maintenance activities on lesser roads in the area.

6. Renewable Energy Technology -- 1980-1983. This project provides for the introduction of devices for minimizing use of combustible materials through existing conservation techniques. Applied research will be done on renewable energy technologies functioning in other LDCs which may be appropriate in Lesotho. The project will also establish an organization and system for expanding the program to a nationwide scale if prototype efforts are successful.

7. Southern Africa Manpower Development -- 1978-1983. This project is designed to reduce critical manpower constraints to development while strengthening the public sector's institutional capability to meet the development needs of the country. Although conceived to address a variety of sectors, this project has been used to a significant degree to fill critical skill gaps in institutions in the agriculture sector and to provide related long-term training. Specific skill area assistance currently being provided to agriculture include crops, financial management, marketing, conservation, range ecology, agricultural economics and agriculture education/development planning.

The collective emphasis of USAID's activities in the agricultural sector in Lesotho is on support to the institutions and infrastructure which support agricultural production rather than on directly productive activities.

IV. TWENTY YEAR HORIZON

A. Goal

The proposed long-term goal for the agriculture sector from USAID's perspective is to achieve income self-sufficiency for the rural population. A narrative description of such a goal could be as follows:

1. Lowlands. Agriculture would include grain production for the national market on labor intensive, high yield, small farms with some capability to use irrigation in times of drought. Farmers would also be involved in labor intensive vegetable and fruit production for domestic and export markets. Cultural techniques would provide for inclusion of basic soil conservation practices and would utilize technological packages as developed and extended by MOA. Barnyard livestock would be widely raised, possibly mixed with cattle fattening and feedlots associated with the meat processing plant. Labor intensive agro-industry would have developed in rural areas and small towns to add value to exports, provide rural Basotho income earning opportunities and minimize the desire to relocate to urban areas.

2. Highlands. The primary activity would be controlled (probably monitored by herdboys on marked open range) grazing of cattle, sheep, goats and horses. Selected areas would be developed for speciality crops (fruit, nuts, oilseeds, vegetables), fodder for winter feeding of cattle and for woodlots and forest reserves. Labor intensive agro-industry would be present, especially processing for bulk reduction to achieve transport economies.

3. Foothills. Depending on the nature of the terrain, soils and proximity to specific agro-industries, one would expect a mix of agricultural activities found in both the lowlands and highlands.

It should be noted that the goal statement of USAID is not identical to the goal statement of the GOL. Nevertheless, many of the subsector interventions described below are consistent with and responsive to GOL objectives. The emphasis in this paper is on developing institutions and structures to support agricultural production to increase rural incomes under the assumption that production will naturally flow once institutional supports are in place. On the other hand, the GOL appears to emphasize increased agricultural production toward food self-sufficiency under the assumption that institutional support will fall into place as increased production requires it.

The GOL has chosen to pursue a goal of food self-sufficiency which AID perceives to be of questionable value and inordinately costly in terms of agricultural income and growth. Rather, AID anticipates that agricultural

income can best be enhanced through production of livestock and livestock products such as cheese, wool and mohair and temperate zone specialty vegetable, fruit, nuts, seeds, and oilseed crops for domestic consumption and export to the RSA, EEC and other African nations; at the same time GOL support to farmers in grain production for home consumption needs should be continued. Both GOL and AID perceive high priorities for increased agricultural employment, land conservation and improved services.

B. Subsector Goals -- Livestock and Crop Subsectors

The subsector goals, as perceived by AID are:

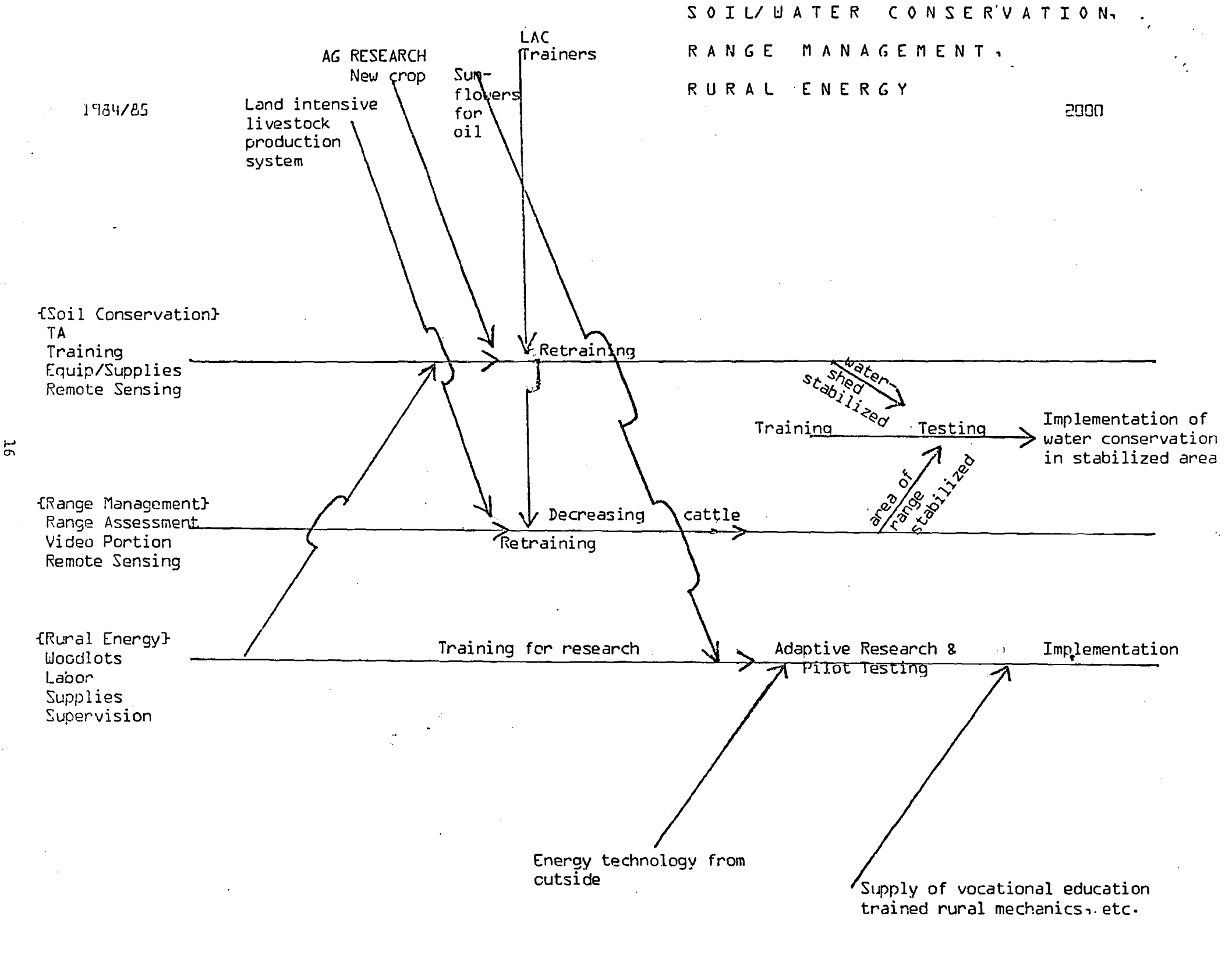
1. Agricultural sector income derived from commercialized labor intensive livestock activities; and

2. Agricultural sector income derived from commercialized labor intensive agricultural crop production and processing.

The word "commercialized" in each of the subsector goals is intended to convey the expectation that Basotho farmers must increasingly produce for sale, specializing in those enterprises for which they have a comparative advantage and buying those commodities needed for consumption. Even when Basotho agriculture becomes fully commercialized, some portion of each farm's output will continue to be consumed by the farm's owner and his family. In order to achieve a commercialized agriculture, profitable and culturally acceptable farming systems and crop/livestock packages, efficient marketing systems for both inputs and products will have to be developed. A secure and efficient rural food marketing system is a necessary pre-requisite to achieving commercialization.

The subsector goals are not intended to imply that no capital will be used in Lesotho's agriculture. It is recognized that machinery and equipment can perform some tasks that humans working with simple tools cannot. Where timing and speed are critical, the use of machinery may be essential. However, given the low wage rates prevalent in Lesotho today and for the foreseeable future, labor intensive methods should continue to be economically efficient for most farming operations. Achievement of this goal will require that farming systems be developed which incorporate small hand-operated equipment and machines. This may require experimentation and adaptation of such tools as backpack sprayers, walking tractors, small powered threshers, cobbers, etc.

Modern agriculture requires a literate and informed farm population with some understanding of science and the ability to build, utilize, repair and maintain modern machines, tools and structures. Dissemination of this knowledge and skills among rural Basotho will require substantial change and strengthening of Lesotho's educational system. Furthermore, the capacity of the government to manage and guide the agricultural economy will require continued manpower development through long-term training abroad and strengthened educational institutions at home, and will require


SOIL/WATER CONSERVATION,
RANGE MANAGEMENT,
RURAL ENERGY
1984/85
2000
AG RESEARCH
New crop
Land intensive livestock production system
Sun-flowers for oil
LAC Trainers
{Soil Conservation}
TA
Training
Equip/Supplies
Remote Sensing
Retraining
water-shed stabilized
Training
Testing
Implementation of water conservation in stabilized area
{Range Management}
Range Assessment
Video Portion
Remote Sensing
Decreasing cattle
Retraining
area of range stabilized
{Rural Energy}
Woodlots
Labor
Supplies
Supervision
Training for research
Adaptive Research & Pilot Testing
Implementation
Energy technology from outside
Supply of vocational education trained rural mechanics, etc.

a continued reorganization of government institutions so that they can be more responsive to the nation's needs. Internal management and decision-making processes must also be strengthened so that policies can be established which both encourage larger proportions of the government's resources to be devoted to providing direct services to the farmers and increasingly to attract private entrepreneurs to consider providing such services on a profit-making basis.

In the following paragraphs, interventions in the various agricultural subsectors for achieving the goal of rural income self-sufficiency are described.

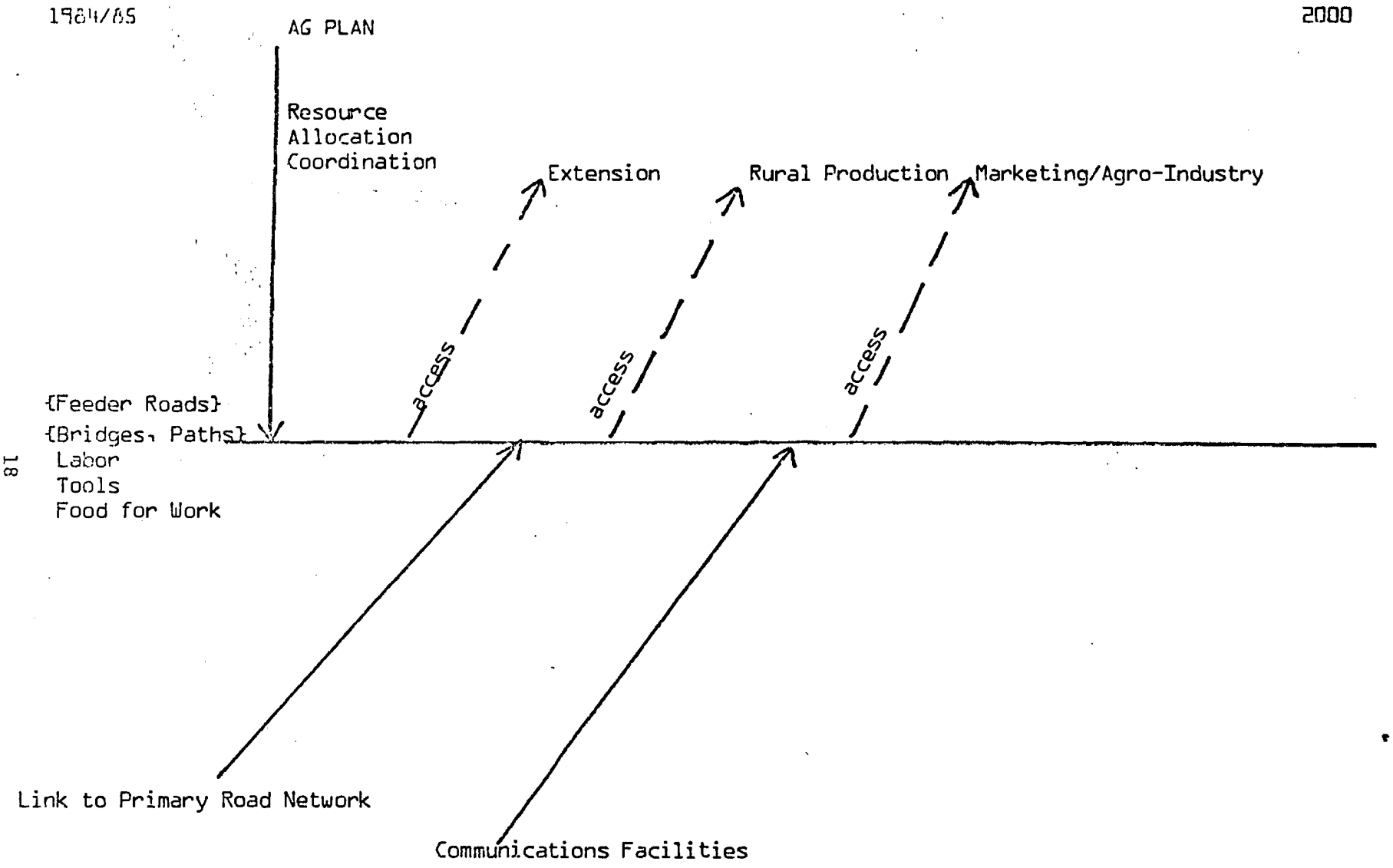
C. Subsector Interventions

This section presents the seven priority subsectors related to the stated goal in agriculture. The time periods used are approximately as follows: Initial period, 1985-89; Middle period, 1990-95; Latter period, 1995-2000; and Post Period, after 2000.

1. Soil/Water Conservation, Range Management, Rural Energy. Given the continuity of conservation and range programs as well as their critical importance in preserving and enhancing the land, such activities constitute one of the essential subsector interventions. Project activities in soil conservation will remain directed toward protecting and improving the quality of agricultural soils while range management will be designed to attempt to reduce grazing pressure and permit resurgence of natural grasses. During the initial period, both activities will require continued technical assistance, training (long-term, short-term, and in-country) with limited amounts of equipment and supplies. A thorough range resources assessment will prove valuable, especially if it can be coupled with a computer generated video projection (RAPID-type) program to heighten awareness at the level of national opinion leaders regarding the impact of overgrazing. It is anticipated that this along with changes in grazing regulations and creation of a commercial market for livestock will increase the commitment to reduce the size of the national herd. Use of remote sensing techniques could prove valuable in planning in both types of activities. During the middle and latter periods close links will be required with crop extension activities and with agro-industrial enterprises such as feedlots associated with the abbatoir. It must be strongly emphasized, however, that the key to an overall long-term solution to range conservation problems is achieving an absolute reduction in the number of livestock. All other activities in conservation will remain constrained unless this is accomplished.

In the initial period, activities to expand rural energy sources should be continuation of economical woodlot promotion, culling, and harvesting (requiring labor, some supplies and supervision) which will also promote soil conservation, through watershed stabilization and preservation of crop residues and dung for soil enrichment. During the middle period,

RURAL ACCESS



project activities should commence with technical and research training to provide a solid institutional base for adaptive research of then-existing rural energy technologies for use in Lesotho. In the latter period adaptive research and pilot testing of such activities as sunflower (for oil) production, mini-hydro systems, wind and solar energy applications, would be in the full implementation stage leading to adoption of proven technologies on a nation-wide basis.

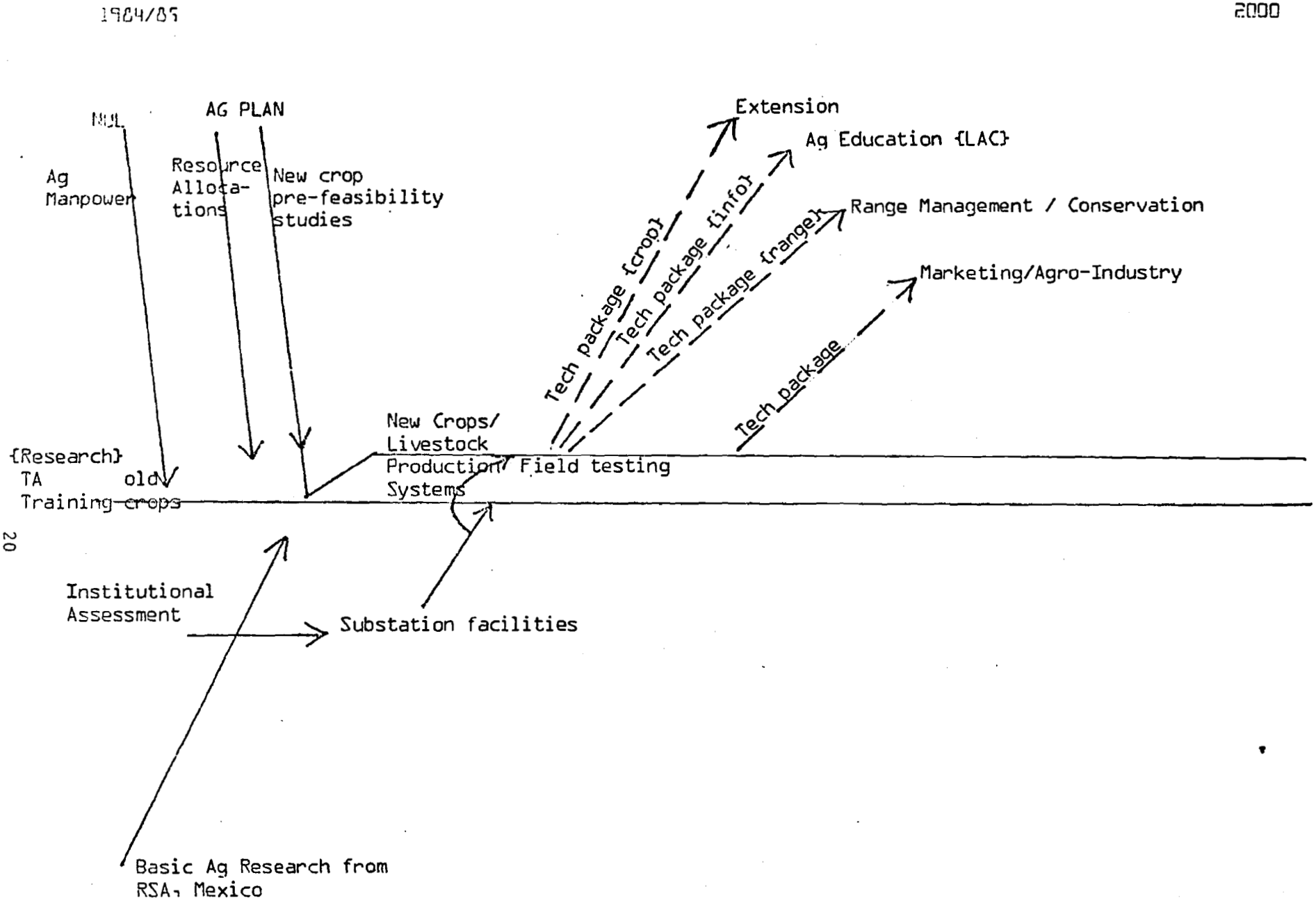
Water conservation activities, dependent on lower levels of silt deposit, are necessarily relegated to a later phase of development. These activities should commence in the latter period with long-term training for research and planning of water conservation initiatives. Physical implementation would occur post-period. A significant non-agriculture sector intervention in vocational education will be required in in the initial period to support the maintenance of rural structures and machinery related to rural energy activities.

2. Rural Access. Given the current GOL emphasis, supported extensively by the donor community, on the development of a basic national network of primary roads, priority activities should be restricted to developing access to rural populations through construction of feeder roads, bridges and donkey paths with key emphasis on maintenance. Continuation of the current system of Food for Work activities provides a highly appropriate mechanism for addressing rural access utilizing locally based resources in terms of tools and labor. Essential inputs consist only of necessary food supplies, hand tools, transport vehicles, and supervision by PCVs and other volunteers, e.g., UN, IVS, etc. The effectiveness of a FFW program for rural access depends a great deal on the attitudes of the GOL. If the attitude is positive and thorough planning is done, the program scope could possibly be expanded to include some cash payment to workers. However, such a program would require careful supervision and monitoring to ensure that such payments did not become simply a disguised dole.

During the initial period activities should be selected using criteria which reflect linkages with expanding production outputs in the agriculture sector. The availability of communications facilities (post office, telephone, radio) at this time will support the development role of rural access, especially when marketing, extension, research and administration are involved. The provision of such communication facilities lies outside the agricultural sector but needs appropriate investment to keep pace with improved rural access.

3. Adaptive Research Capability. Agricultural research capability is an essential subsector intervention to support increased agricultural production on existing crops, to identify and test possible new crops, and to evaluate the technical feasibility of crops selected for their

ADAPTIVE RESEARCH CAPABILITY

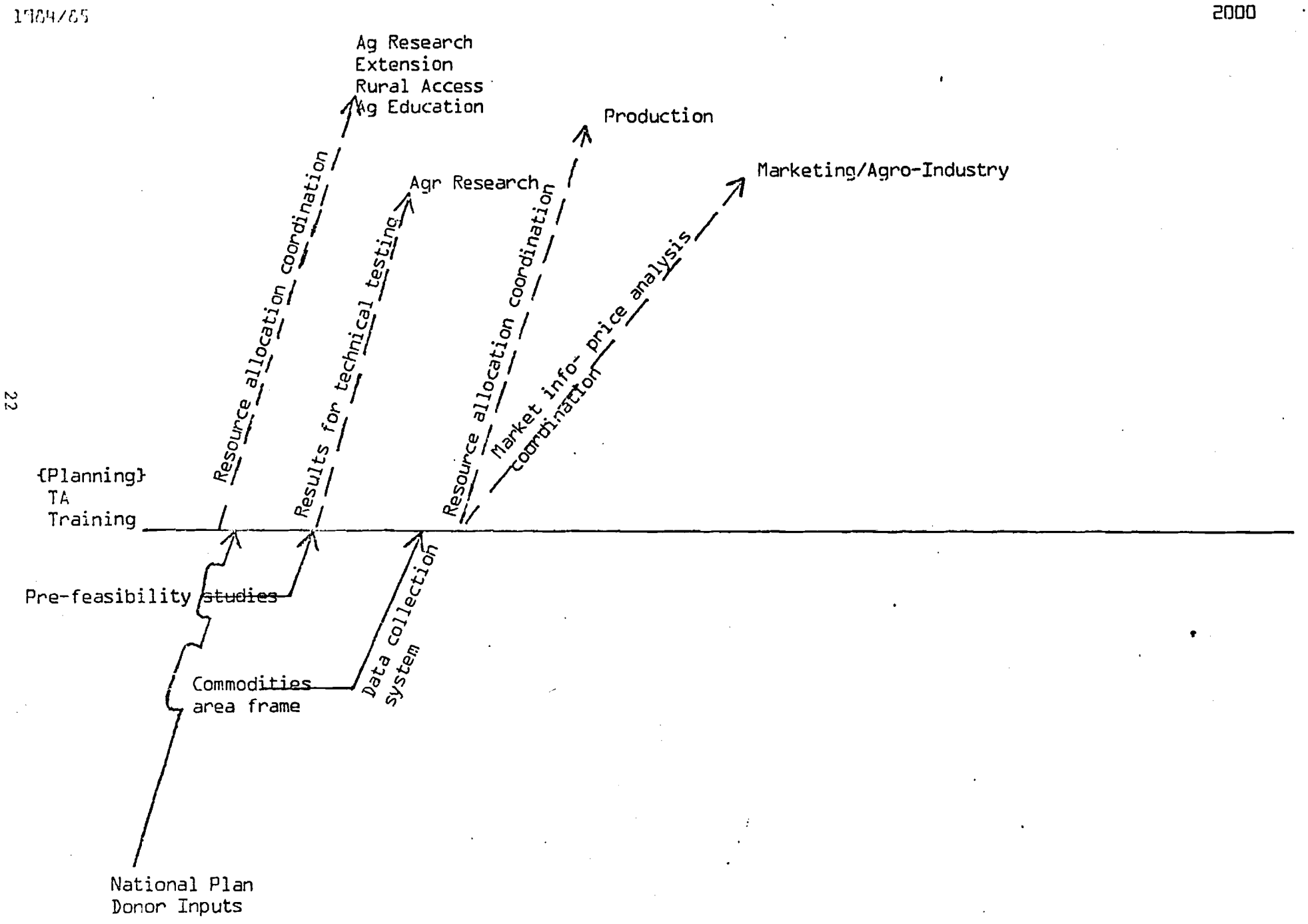


potential comparative advantage. Key elements of such adaptive research should include farming practices related to increased yields such as planting distances, seed densities, fertilizer applications and weed and pest control. Equally important, is adaptive research relating to increasing yields by use of improved tools and equipment for planting, harvesting, storage, processing and marketing. Given the restricted financial and human resources of Lesotho, emphasis during this period, 1985-2000, must be on adaptive research, borrowing research findings from institutions dealing with similar crops and ecosystems such as those in Mexico and South Africa. Development of an adequate adaptive research capability depends heavily on strengthening the existing Research Division of the MOA. Substantial long-term training will be required. Continuing technical assistance will also be required, diminishing with the availability of trained Basotho personnel as they return. During the initial period, an institutional assessment should be undertaken which will assist in determining the appropriate numbers, land and facility needs, and locations of research substations, available number and disciplines of long-term participants, training needs, and organization of research within MOA and the Research Division. No headquarters facilities should be required. Another initiative which should be started early in the initial period is the involvement of agricultural research in the technical evaluation of new crops, in conjunction with pre-feasibility studies to be done in coordination with and under the supervision of the Planning Division of the MOA. A modest amount of equipment for agriculture research, including appropriate computer capability, should be included by the middle period. Although no specific parallel initiatives outside the agriculture sector appear to be necessary, it should be noted that a close linkage with rural farmers and agro-industry is essential to assure that new crops and tools are utilized in the agricultural production/agro-industry process. In this regard a strong linkage between the adaptive research subsector and the farmer agro-industry and market systems is a mandatory requirement if the successful results of a research program are to be used. Planning and studies should be initiated early to assure that this important linkage is maximized.

4. Agricultural Planning/Policy Analysis. Integral to the identification and elaboration of priority subsector interventions is the capability in the MOA to undertake effective policy analysis and coherent planning not only in policy terms but also for improved organization, management and financial controls. It must be noted and stressed that a functioning planning division is the single most important factor for the successful achievement of objectives in the other divisions. If this is not accomplished by the end of the current project, a more flexible approach to programming funds for support to the agriculture sector will not be possible.

Although the current USAID project attempts to address the development of a planning capacity in the MOA, there will undoubtedly be continuing specialized requirements in planning after 1985/86.

AGRICULTURE PLANNING POLICY ANALYSIS

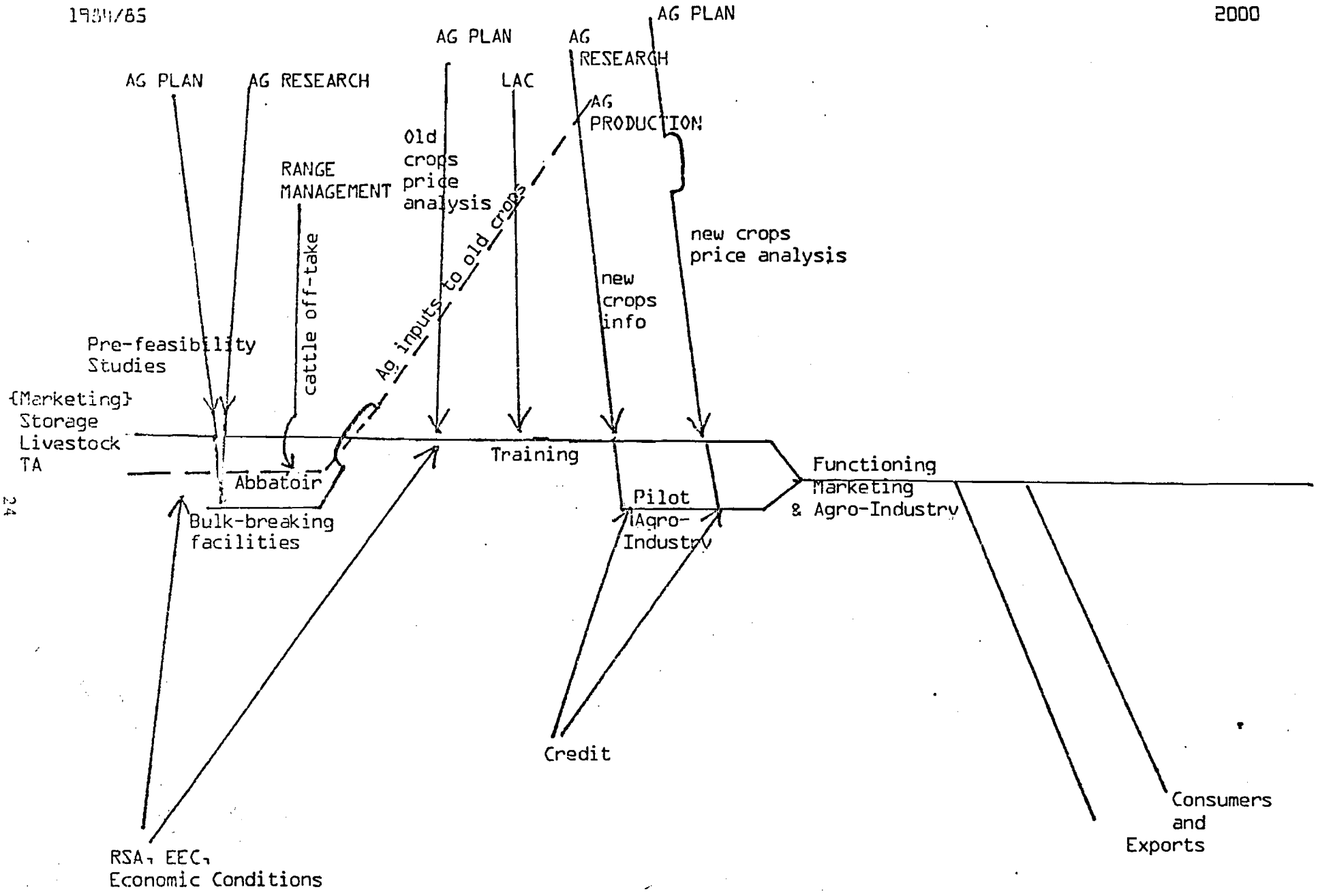


Training (long-term, short-term and in-country) will be needed until the entire senior professional staff of the Planning Division has achieved the level of M.S. Training activities should continue directly from the existing project. Modest levels of advisory technical assistance (long or short-term) will probably be necessary throughout. Two important initiatives need to be commenced during the initial period. A series of prefeasibility studies, on possible new crops and related agro-industrial processes needs to be undertaken in conjunction with the Research Division. Also studies related to development of grazing controls and regulations are needed as are studies to develop vocational agriculture training at the primary and secondary school levels. The training studies should be conducted with the Ministry of Education and planning studies to strengthen the linkage between the farmer and all subsectors are needed immediately.

A thorough statistical data collection system needs to be developed, using techniques such as area frame sampling, in order to support effectively the planning and policy analysis functions. Such data would also be valuable in the development of marketing and agro-industry iniatives. During the middle period it may be necessary to expand the physical facilities of the Planning Division and to upgrade its computer capabilities. The inputs suggested above should ensure that the MOA has the capability to present decision-makers with sound policy options and operational plans to guide agricultural development.

5. Marketing ---Agro-Industry. The development of marketing and agro-industrial activities follows two distinct tracks; those activities necessary to support current marketing efforts, and later activities tied to the development of new crops and agro-industry investments. Without development of both facets the marketing/agro-industry subsector will not be able to respond to potential expansion in agricultural production made possible by improved capabilities in agricultural research and extension. Current requirements appear to be in storage, operation of livestock markets, training of rural traders in business management practices and in the use of agricultural inputs, a market information system (using radio and other media more effectively, and possibly, facilities for breaking bulk on imported agricultural inputs. Also essential during the initial period is the participation of marketing/agro-industrial insititutions andprivate entrepreneurs in the performance of the series of prefeasibility studies to be carried out under the aegis of the MOA Planning Division. Because government has not yet enunciated a long-term policy for the role of the private sector in agricultural marketing, extensive efforts to involve the private sector in the immediate future would be premature. However consideration should be given in the initial period to provision of technical assistance to the MOA and other appropriate GOL entities (e.g., planning) to assist in the development of effective mechanisms to attract private industry into agriculture development. This function would have to be closely coordinated with the LNDC and Coop/Lesotho.

MARKETING / AGRO-INDUSTRY



A second facet of marketing should commence at the middle period closely associated with the identification, testing and extension of new crops. Commencing with training (short-term, in-country, including interested private entrepreneurs) it will be necessary to analyze the new marketing/agro-industrial opportunities in terms of market development. Subsequently, given sufficient availability of investment credit, it might be possible that private entrepreneurs can be encouraged to invest in agro-industrial processing. During the middle period it may also be possible to upgrade the marketing information system by linking it with the statistical data gathering system being developed under the Agricultural Planning subsector.

6. Agricultural Extension and Production Services. Integral to the whole process of agricultural production is the presence of an effective extension system and of appropriate production services. As in the case of marketing/agro-industry (see IV.C.5, above) there are two tracks of appropriate activities. Current livestock activities in Lesotho are supported in a reasonably effective manner by veterinary services, dip tanks, etc., for disease control. Little appears to be needed except to ensure that a linkage between livestock extension and range management activities is made through short-term and in-country training. An early institutional assessment of overall extension requirements may indicate a need for district office facilities, extension agent transportation (horse, bicycle, motorcycle), and a limited amount of training equipment for use in the existing Farmer Training Centers. Specialized training could be offered to veterinarians, especially if any breeding or artificial insemination activities are to be considered.

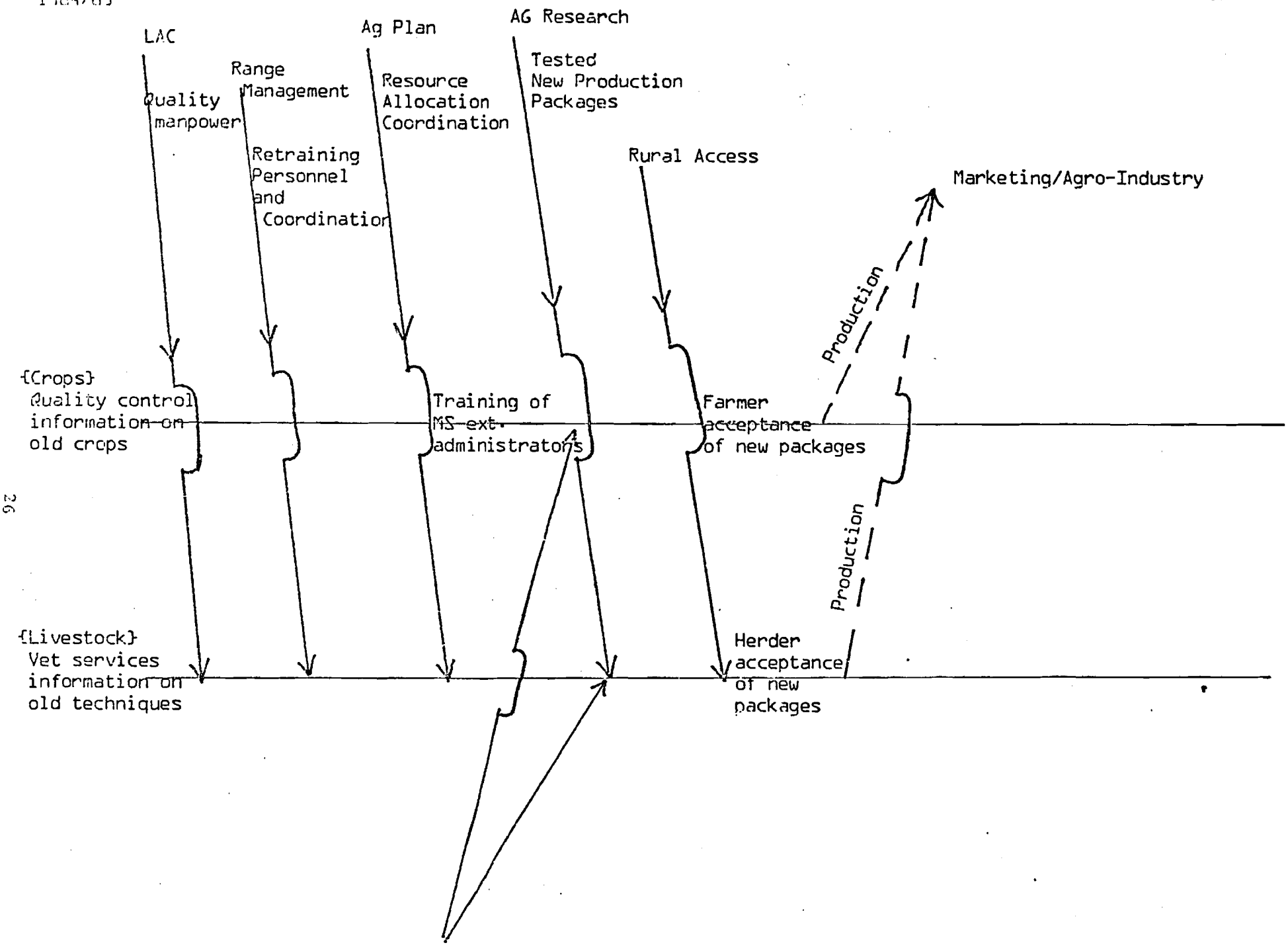
The second track, related to crop extension, will largely rely on the outputs of agricultural research in the short run (improved technical packages for maize, wheat, etc.,), and complete technical packages for tested new specialty crops during the middle and latter periods. Production services related to crop production such as soil testing, feed and fertilizer inspection and production quality control can be introduced. Preparatory to the extension of new crops it would appear that training up to the M.Sc. level for future extension service administrators would be appropriate, especially as a means to emphasize the linkages between extension services, agricultural research and conservation activities. It must be noted that the most critical ingredient in the improvement of extension services in the country is the improvement of the quality of graduates from the Lesotho Agricultural College who form the backbone of the service (see IV.C.7, below).

7. Agricultural Education. Activities described in this section concern only MOA training; however vocational agriculture training at the primary and secondary school levels is considered mandatory if major increases in food production are to be realized in Lesotho. Such training is under the responsibility of the Ministry of Education but will require

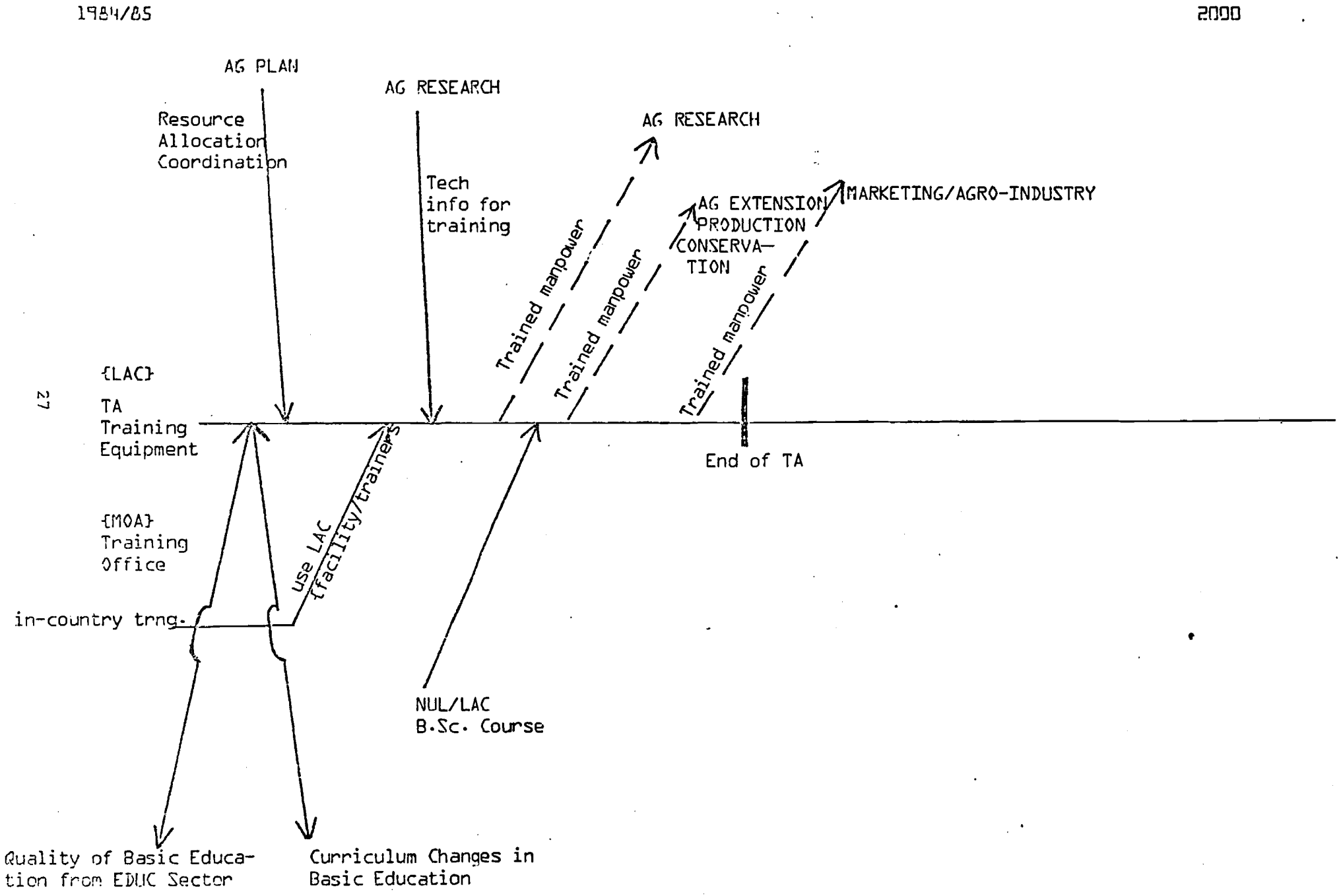
AGRICULTURAL EDUCATION/PRODUCTION SERVICES

1984/85

2000



AGRICULTURAL EDUCATION



general guidance of the Ministry of Agriculture, primarily through the Planning, Research, and Extension subsectors. The role of agricultural education in developing the basic human resources for the implementation of all other subsector interventions is critical.

Three levels of agricultural education bear consideration. LAC presently provides certificate and diploma personnel for lower and middle technical levels of the MOA, some of whom may eventually receive additional training later in their careers. In terms of facilities, LAC is well equipped for the entire period, requiring only the provision of modest amounts of laboratory equipment, teaching materials and books. The major need is in terms of staff and curricula development which will involve substantial amounts of long-term M.S. level training. Technical assistance will fill in gaps during the initial period.

The second consideration in agricultural education is whether a B.Sc. program should be instituted at the National University in conjunction with LAC. A critical evaluation of the costs, requirements, and alternatives must be undertaken.

The third area involves upgrading the quality of existing staff through inservice training of MOA (and appropriate parastatal) personnel using LAC facilities. A small training section in the MOA is necessary which can effectively diagnose the kinds of training required and can schedule MOA staff into such training with a minimum of disruption in on-going activities. Such a unit already exists but is presently primarily occupied with the identification and placement of candidates for training outside Lesotho. A small expansion of the office with redirection toward in-service training would appear appropriate.

In the education sector, it appears to be absolutely necessary that the MOE reform primary and secondary curricula to include a bias for training in agriculture.

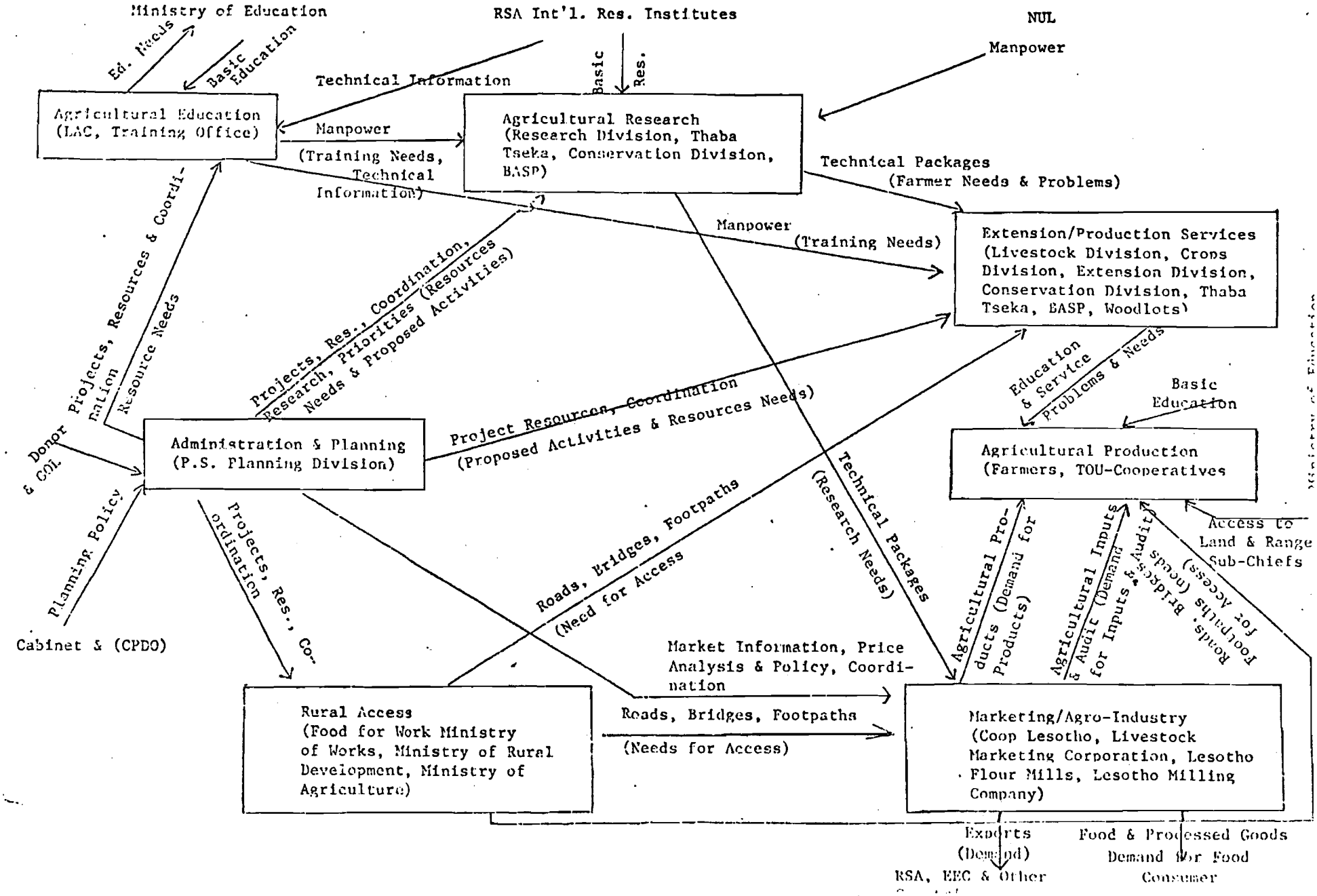
D. Linkages Between Functional Subsectors

Chart A depicts the linkages between the seven agricultural subsectors, each of which performs a key function in the sector. The existing agencies and organizations performing the functions are listed in parentheses under the title of the subsector.

Conservation, Range Management and Energy are not included as a separate subsector as elsewhere in this document, but are folded into the Research and Extension/Production Services Subsectors. This reflects the view that the Range Division, Conservation Division, Woodlots Project and Energy Project provide research, extension education, and production services that are generically similar to those provided by Research, Crop, Livestock and Extension Divisions.

The Administration and Planning Subsector consists of the Permanent Secretary's Office and the Planning Division. It receives financial resources from the Ministry of Finance and donor agencies and policy and national

Chart A



plans from the Cabinet and Central Planning and Development Office. It provides policy, program and project planning, and evaluation service resources, and program coordination to the other subsectors.

The Agricultural Education Subsector produces trained and retrained manpower through currently offered remedial programs to other subsectors. It is dependent on the primary and secondary school system for qualified students and domestic and foreign research organizations for scientific knowledge that may be included in its curriculum.

The Agriculture Research Subsector is dependent on research institutions in the RSA and elsewhere for scientific knowledge and agricultural technologies which may be adapted for use in Lesotho. It delivers technological packages and management methods to the Extension/Production Services Subsector and others who seek such services.

The Extension/Production Services Subsector provides the Agricultural Production Services Subsector with informal education in agricultural production, management and marketing techniques in response to expressed needs. As the MOA is currently organized, the Extension/Production Services Subsector is fragmented into numerous management entities, including Extension, Livestock, Crops, Conservation and Range Divisions, and several semi-autonomous projects.

The Agricultural Production Subsector is made up of all individuals, firms and agencies producing livestock and crops, including TOU and crop and livestock farmers. Its performance depends on the Education sector for knowledgeable and skilled farmers, and local government for allocation of range and farmland. The primary products of this subsector are livestock and crops delivered to the Marketing/Agro-Industry Subsector.

The Marketing/Agro-Industry Subsector process, stores and transports food and fiber products to domestic consumers and foreign markets and imports, manufactures, assembles and delivers agricultural inputs to the Production Subsector. Included in it are numerous parastatal, private and cooperative organizations.

The Rural Access Subsector provides transportation and communication infrastructure to the remainder of the sector. In order to emphasize the critical importance of transportation to Extension Production Service, Marketing/Agro-Industry and Agricultural Production Subsectors, only these linkages are noted on the chart. Obviously, all subsectors require the ability to communicate and move people and goods about the country.

V. RECOMMENDATIONS FOR USAID

The preceding analysis supports the concept of a twenty year strategy. For such a strategy to succeed, the following levels of achievement must be attained in the initial and middle periods. These levels are listed by subsector below:

- Conservation/Range/Energy --additional land protected although erosion still serious; some reduction in number of cattle; woodlots harvesting being efficiently handled.

- Rural Access --primary road system nearly complete, many farm to market roads completed in lowlands and foothills.

- Research Subsector --partially staffed by fully qualified Basotho and capable of producing technological packages for a limited number of crops.

- Administration and Planning Subsector --largely staffed with qualified Basotho capable of undertaking price analysis, program and policy design, and generating crop and livestock production estimates and prices series.

- Marketing/Agro-Industry --livestock and livestock product marketing well organized; grain crops markets functioning efficiently; some new crops/special crops marketing systems planned.

- Extension Production Services Subsector --partially staffed with qualified staff providing broad range of services to livestock producers and selected services to crop producers.

- Ag Education Subsector --LAC partially staffed with qualified faculty producing better-trained middle level MOA technicians and retraining MOA technicians.

The elaboration of the intermediate levels of achievement shown above was based on certain assumptions of the status of activities and problem areas in the various subsectors in 1984/85, as shown below:

- Conservation/Range/Energy --additional land protected, although no impact on reduction of cattle numbers; woodlot planting program proceeding satisfactorily.

- Rural Access --primary roads partially completed, supported by a limited number of feeder roads.

- Ag Research --headquarters and three substations almost complete; a few trained staff; on-going research in grain crops; several new and/or specialty crops identified but not fully tested.

- Ag Planning --adequate office facilities in place; partially staffed with adequately trained personnel with limited experience.

- Ag Marketing --serious organizational and operating problems in livestock, crop and input marketing.

- Extension/Production Services --inadequately trained staff, poorly organized to provide limited services.

- Ag Education --excellent facilities staffed by insufficiently trained personnel.

Using the intermediate objectives and factoring in the impact of the assumptions, it would appear that the following inputs will be required by subsector activity during the period 1985-1990. The estimates are considered to be preliminary and conservative and are intended to portray requirements for consideration by all donors. (Note: Technical assistance is costed at $140,000 per person; long-term training at $25,000/year/participant).

($ million)

- Conservation/Range/Energy:

Technical assistance (continuing at present levels) -	3.0
Range assessment (remote sensing/aerial photography) -	0.25
Equipment (for soil conservation, mapping, etc.) -	0.75
Training (in-country/on-the-job) -	0.8
Woodlots (continuation of current program at current level) -	2.5
Total	7.3

- Agricultural Research:

Technical assistance -	9.0
Training -	1.5
New crops pre-feasibility testing -	2.0
Total	13.0

- Agricultural Planning:

Technical assistance -	4.0
Training -	0.65
Data Collection -	1.0
Total	5.65

- Marketing/Agro-Industry:

Storage (for new warehouse construction -	2.0
Bulk-breaking facility (for packaging fertilizer, insecticides, seeds, etc. -	0.5
Technical assistance in livestock marketing -	2.0
Equipment (prototypes of processing equipment for processing equipment for testing -	0.5
Training of entrepreneurs -	0.25
Total	5.25

- Agricultural Extension:
  Retraining costs through LAC - 2.25

  Total 2.25

- Agricultural Education:
  Technical assistance for LAC - 8.0
  Training for LAC - 2.5
  Equipment for LAC (laboratory, book, periodicals - 0.25

  Total 10.75

- Rural Access:
  Food for Work activities - 12.5

  Total 12.5

The combined total for all activities is 56.7 million dollars over the five year period. As noted above, this amount is both conservative and is intended for consideration by all donors.

These activities also assume that (a) sufficient numbers of qualified Basotho will be available for further training; (b) the GOL is committed to reducing livestock numbers thus justifying further investment in range control and soil conservation; (c) the GOL is committed to rigorous planning and policy determination and management improvement. The Education Sector Strategy and review will shed light on (a) above, and experience in implementation of existing projects will indicate the degree of commitment specified in (b) and (c).

AID does not expect to have financial resources of the dimensions indicated above (approximately $20 million in bilateral funds plus $12.5 Food for Work might be available). Therefore, AID must establish a set of criteria by which it can prioritize application of its limited resources to selected activities.

The following criteria merit consideration, and, depending on the relative value attached to their application in the selection process, can guide AID to allocate funds to a specific set of activities.

- Spread versus concentration --given limited financial and management resources consideration should be given to avoid getting involved in every, or even the majority, of the activities.

- AID's "comparative advantage" --AID has experience, both overseas and in the U.S., in certain types of activities (training, research, extension, soil conservation, planning) and should concentrate on doing those activities well. USAID should also stress the use of private mechanisms and emphasis on private sector work (not just for GOL), including PVOs as grantees or contractors.

- Host government policy uncertainties --AID should continue to consider types of activities which can leave behind institutional structures and not risk becoming involved solely in production activities.

- Generic versus subsector type --AID should not concentrate on providing a specific type of input, e.g., training, to all projects with the risk of not having an identifiable impact on any activity.

- Flexibility --although some flexibility is certainly required, unlimited flexibility is undesirable as efforts will be in danger of dissipation. Flexibility based on established criteria permits both parties to focus management on pre-selected activities where impact is measurable and reasonably predictable.

R E C O M M E N D A T I O N

Given the above statements of sector goals, sector priorities, and selection criteria, the following program is recommended for consideration for AID funding to the Agriculture Sector in the period 1984/85 - 1989/90.

($ Million)

Ag Education (LAC)	9.0	(Training 1.5;TA 7.25; Equipment .25)
Ag Research	7.5	(Training 1.5; TA 6.0)
Ag Planning	3.5	(Training 0.6; TA 2.9)
Total	20.0	
(plus Rural Access,	12.5)	

Assumption/Justifications:

1. Note that no support for conservation/range management is included above. By 1985, the GOL should have a developed institutional capacity for sustained efforts in conservation/range management given current indications of progress to date and expected achievement by the conclusion of the current project. It is assumed that a significant decrease in cattle numbers on the range, coupled with improvements in range management practices, will take place during the period 1982-1990.

2. Investment in education is required at this time because of the long lead-time required to provide the required training and get the trainee back into operation at home. Further, once he/she returns, time is required to gain the necessary practical/field experience before he/she becomes effective in the job. There also is a need to provide re-training at all levels in the MOA (primarily through LAC) and this requires time to set up and operationalize. Other needed interventions in education at the primary and secondary levels to upgrade the quality of candidates for higher education, it is assumed, would be provided for under USAID EHR funding or from other donor support.

3. Investment in research is required in this period because of the long lead-time required to develop the capacity for testing of packages of new and/or special crops. Packages take a minimum of 3 to 5 years to develop and test, depending on the crop. A minimum of ten years will be required before research capability for across-the-board crop testing is in place.

4. The assumption is made that the current Ag Planning Project will make a positive impact, but the Planning Division will require further support to fully develop the capability to provide decision-makers with sound policy and strategy options. The development of such capability is essential and prerequisite to the USAID strategy to assist in the development of policy formulation in the GOL and for positive sustained growth in MOA planning capability. USAID assumes these objectives will remain high priorities of the GOL. Should this assumption not prove correct, it is USAID's view that no further attempts at institution-building in agriculture at technical levels should be attempted until planning and analysis capability is in place; that is, that the program proposed above not be attempted. Instead an appropriate level of funding should be allocated to the Education sector to provide for the development of vocational agriculture training and upgrade math and science teaching in the primary and secondary schools in order to provide (a) qualified candidates for higher training, and (b) develop a needed bias toward agriculture training in the lower schools.

5. The assumption is made that the GOL can identify about 60 candidates qualified for further training (total of 144 person years training in budget) early during the period. Given the GOL emphasis on development in the agriculture sector, it is felt this is possible. Also assumed is that the GOL will make progress in improving the math/science teaching in the primary/secondary school network to provide qualified candidates for higher education in the long-term.

6. The assumption is that additional donor assistance (additive to USAID contribution) will be forthcoming during the period for Agriculture Research.