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FY 1988

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Prepared by the Office of the AID Representative
Kigali, Rwanda
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PREFACE

This Rwanda CDSS departs in one important way from the preceding one: limited full-time employment opportunities in rural areas appear as a predominant issue in the assessment of Rwanda's most pressing development problems, joining rapid population growth and low agricultural productivity as the fundamental development constraints the nation faces. The identification of these key issues derives largely from the experiences and analyses of professionals in the field and at the Mission, supplemented as noted below by several important studies. The views of numerous local actors have been solicited to reflect as much as possible the realities of contemporary Rwandan development. By creating formal opportunities for individuals both within and outside the Mission to contribute to the CDSS process, a picture has emerged of the major issues and constraints to Rwanda's development; they form the structure of the Mission's CDSS analysis of the country's development problems and potential.

The most notable exchange of views occurred in the CDSS seminar series held in April and May, 1986, preparatory to the ABS review and Rwanda Social and Institutional Profile (SIP) investigation. AID direct hire, contractors, and Embassy representatives attended these stimulating and informative sessions. Each of the first three round tables focused on sector issues: agricultural productivity and natural resource management, human resource development and employment generation, and health and population. The fourth and final meeting was devoted to grass-roots issues as experienced by local and U.S. PVOs. Only the last seminar was attended by individuals outside the AID network; their valuable insights made that session especially rewarding.

The exchanges among field professionals in the seminars were revealing of Rwanda, and distilled three key problem areas dominating the development landscape: inadequate income in rural areas, a debilitating lack of human resources, and a staggering population problem. These issues assume a prominent place in the CDSS analysis. The seminar discussions were summarized after each meeting and a short report was distributed before the next meeting was held. In this fashion each seminar built upon the previous one to identify key items for study and additional research.

A number of useful and informative studies were carried out in the months following the seminar series to elucidate further crucial issues. The most important of these were:

* the Rwanda SIP, which assessed the performance of key institutions in the development process and identified some important technical issues;

* the Food Aid Assessment, which helped to clarify the role of food aid in meeting the nutrition needs of populations at risk and the larger question of the overall impact of food aid in the context of the Government's policy on food imports;

* the Farming Systems Improvement Project (FSIP) evaluation, which helped to bring out the Government's position on agricultural development and the roles to be played by the National Agricultural Research Institute (ISAR) and FSIP; and

* the pre-evaluation review of PRIME, Rwanda's Africa Economic Policy Reform Program, which initiated the process of reformulation of this major effort in light of the Mission's experiences this past year.

The Mission has profited as well from the visits of senior AID advisors, both from the regional bureau in Nairobi and in Washington. Three times in a two month period both the chief REDSO Economist and senior Social Science Advisor came to Rwanda to assist Mission staff and collaborate with Rwandan economists in the Ministry of Finance. The Africa Bureau's senior Economist helped to initiate the process of restructuring PRIME and offered timely advice on the CDSS. We are grateful to them for their insights and the contributions they made. We are appreciative of the Embassy for their review of the CDSS, and to those contractors and PVOs who will help us to close the CDSS process with one final seminar. Finally, and most importantly, dialogue with the Government of Rwanda has informed, corrected, and stimulated our thinking. This process will not end with the submission of the CDSS document.

EXECUTIVE SUMMARY

Few African countries can match Rwanda's record for economic growth since Independence in 1962. Despite a small land base, few natural resources, and great distances from ports, Rwanda's economic performance has been unusually strong. GDP has grown by almost 6 percent annually over the past 25 years, and percentage increases in annual agricultural production have been greater, on the average, than the rate of population growth. Political stability and investments in infrastructure have helped the nation to profit from the hard work and diligence of the ordinary Rwandan, and lend promise to Rwanda's development prospects for the future.

Economic growth, derived from the efforts of the rural citizenry, has not come with equity, however. The majority of Rwanda's overwhelmingly rural population is poor, underemployed, and illiterate. As the population grows annually at 3.7 percent, the economy's ability to provide productive employment becomes increasingly uncertain. To keep up the growth curve, fundamental economic adjustments and development investments need to be made.

Population density on arable land in Rwanda is estimated at 390/km^2, the highest in Africa. This figure could rise to more than 800 persons/km^2 by the year 2000, at which time virtually the entire arable land base will be in production. The most important determinant of economic growth in the past -- expansion of the arable land base -- will no longer be possible. As Rwanda's farms become even smaller and more fragmented, agriculture will be incapable of providing productive employment for the majority of the population.

The swelling numbers of people, limited opportunities for productive employment, and the inelastic land base -- these together define the key issues in Rwanda's future.

Continued rapid population growth is the single greatest threat to the nation's development. The Government's response has been to create the National Population Office and have national and local leaders call for a

reduction in family size. This approach has created an awareness of unmanaged demographic growth among the populace, but has not proven to be sufficient for the magnitude of the problem the nation faces. With a total fertility rate of over 8, improvements need to be made in delivering family planning services. Currently, only 1% of the at risk population is practicing a modern method of contraception; yet 20% of the child-bearing age cohort do not desire another pregnancy. Meeting this demand for family planning services is of the highest priority and will require, in addition to the GOR's efforts, the increased participation of private agencies, including NGOs, to improve service delivery.

The performance and direction of growth in the non-agricultural economy will be crucial both to overall economic growth and the development of Rwandan agriculture. The non-agricultural sector is still relatively young and underdeveloped; it has become delinked from agriculture. Modern industry currently provides full-time employment to only 40,000 Rwandans. Industry is not effectively absorbing the growing population that no longer has a place in agriculture, it is not significantly increasing the purchasing power of those not engaged in agriculture, and it is not, therefore, increasing adequately the effective demand for agricultural production and the incentives faced by farmers. Industry, by not serving agriculture, is becoming an enclave. It neither draws from an underemployed rural labor force nor produces for the mass market of rural consumers.

The poor performance of the non-agricultural economy in recent years is due largely to government intervention. GOR policies have discouraged the development of labor-intensive, efficient enterprises by maintaining an overvalued exchange rate, restrictions on trade, and a morass of regulations governing start-up and operations. A further constraint to enterprise

development is the low levels of literacy and skills of the majority of the rural population, which, despite major efforts, the GOR has been ineffective in raising. Reforms will be needed to stimulate private investment and re-link industry with agriculture.

The future for agriculture will necessarily call for policies and practices which contrast sharply with historical trends. Agricultural growth to date has been achieved without major technological breakthroughs, mechanization, growth in agro-industries, improvements in the marketing system, an input supply/credit distribution system, or growth in the size and purchasing power of the urban, market-dependent population. For the future, however, agriculture will require research-based technologies, improved input supply, and increased output processing, and policy reform favoring the increased participation of the private sector to stimulate growth through the increased commercialization of production.

The goal of the AID assistance program in Rwanda is to raise per capita income of the rural majority. To achieve this, AID will focus on two interrelated problem areas: managing population growth, and raising rural incomes.

The first problem area requires a drastic reduction in fertility rates. The second entails two program elements: generating productive off-farm employment, and raising agricultural productivity through a more research-based, market-oriented agriculture.

There are key institutional and policy reforms common to both problem areas. The Government's progress in taking these reforms will be crucial to the success of the Mission's program and will constitute the basis for determining assistance levels. These reforms include:

* increasing the role of the private (including PVOs) vis-a-vis the public sector;

* improving the performance of public sector institutions;

* removing impediments to increased private sector investment;

* removing constraints to domestic resource utilization and the evolution of a productive and skilled labor force; and

* increasing public sector resource allocations to priority sectors and development activities.

AID's strategy gives highest priority to reducing Rwanda's population growth rate. Our objective is to provide, through a range of institutions, information, education, and technology to assure that informed decisions about family planning can be made and that family size decreases. Future AID assistance in support of family planning will entail:

* training of health workers and medical professionals;

* increasing the knowledge of the public of modern family planning methods;

* sponsoring research for improving operations, service delivery, and social marketing; and

* possibly promoting the greater use of condoms in light of the President's recent call for greater public education on AIDS.

The program element for generating off-farm employment has second priority in the Mission's strategy. This is because the interventions needed to induce policy and institutional reform will, if successful, have the greatest impact on economic growth in the short run. Successful policy reforms which promote productive off-farm employment also will have a significant impact on the incentive climate for agriculture. The objective of this program element is to upgrade the institutional capacity of key ministries and financial institutions whose activities most directly affect the investment climate in Rwanda. AID will help GOR institutions to be better able to:

* analyze, formulate, and implement appropriate policies and programs; and

* promote the growth of rural private and cooperative enterprises.

The objective of the third program element, intensifying agricultural production, is to strengthen the capacity of selected institutions to develop and transfer biological as well as non-biological interventions needed for a more productive and profitable agriculture. AID program assistance will:

* further research on improved agricultural technologies; and

* in conjunction with the second program element, encourage private sector investment in input supply and marketing.

AID's program assistance levels will depend on Government performance in key areas of institutional and policy reform. We have examined three program funding levels, and are recommending only a medium level of assistance if progress is not made on key reforms. A core program in all three elements is proposed; it is already in place, lacking only a new project start in population. It can be supported at the medium assistance level of approximately $4-6 million a year. The high option is recommended under conditions of satisfactory performance in policy and institutional reform. The low program option, which we do not recommend unless there are serious political or performance problems, would still include all three program elements but our attention would focus on population growth and off-farm employment.

In order for the Mission to manage effectively its program at the medium or high level, in the face of American direct hire reductions, we will develop and execute a plan for hiring and training Rwandan professionals.

LIST OF ACRONYMS

ABS	Annual Budget Submission
ADRA	Adventist Development and Relief Agency
AEPRP/R	Africa Economic Policy Reform Program/Rwanda
AID	Agency for International Development
AIDS	Acquired Immune Deficiency Syndrome
AMDP	African Manpower Development Program
ASA	Agricultural Survey and Analysis
ASPA	Agricultural Surveys and Policy Analysis
BNR	Banque Nationale du Rwanda
BRD	Banque Rwandaise de Developpement
CCCD	Combatting Communicable Childhood Diseases
CDSS	Country Development Strategy Statement
CERAI	Centre d'Education Rurale det Artisanale Integree
CRS	Catholic Relief Service
CRSP	Collaborative Research Support Program
EEC	European Economic Community
ENBC	Enquete Nationale du Budget du Consommation
ESF	Economic Support Funds
FAO	Food and Agriculture Organization
FSIP	Farming Systems Improvement Project
GDP	Gross Domestic Product
GNP	Gross National Product
GOR	Government of Rwanda
HCN	Host Country National
HIID	Harvard Institute for International Development
HPNO	Health, Population, and Nutrition Officer
IARC	International Agricultural Research Center
IBRD	International Bank for Reconstruction and Development
ICRAF	International Center for Research in Agroforestry
IDI	International Development Intern
ILO	International Labor Organization
ISAR	Institut des Sciences Agronomiques du Rwanda
IWACU[1/]	Cooperative Training & Research Center
MINAGRI	Ministry of Agriculture
MINIFINECO	Ministry of Finance and Economy
MINIMART	Ministry of Industry and Mines
MINIPLAN	Ministry of Planning
MINISAPASO	Ministry of Health and Social Affairs
MRND	Mouvement Revolutionnaire National pour le Developpement
MSU	Michigan State University
NGO[2/]	Non-Government Organization
ONAPO	Office National de la Population
OPROVIA	Office National pour le Developpement et la Commercialisation des Produits Vivriers et des Produits Animaux

1/ Means "our house" in Kinyarwanda
2/ Used to include PVOs, churches, non-profit organizations, etc.

ORT	Oral Rehydration Therapy
OYB	Operating Year Budget
PCV	Peace Corps Volunteer
PDO	Project Development Officer
PRIME[1]/	Policy Reform Initiatives in Manufacturing and Employment
PTA	Preferential Trade Area
PVO	Private Voluntary Organization
REDSO	Regional Economic Development Services Office
SESA	Service des Enquetes et Statistiques Agricoles
SIP	Social Institutional Profile
SOMIRWA	Societe des Mines du Rwanda
SPAR	Staffing Pattern Action Request
UNDP	United Nations Development Program
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
UNR	Universite Nationale du Rwanda
USDH	United States Direct Hire
WHO	World Health Organization

1/ The AEPRP in Rwanda

I. ANALYSIS

1. RWANDAN REALITIES: Land, People, and Productivity

Rwanda is said to have too many people and too few resources. The indicators ordinarily cited demonstrate this dramatically: population density on arable land, estimated at 390/km^2, is the highest in Africa; per capita GNP, at $270 (1984), is among the lowest in the world. Yet since Independence in 1962 the nation has performed extraordinarily well. GDP has grown annually by almost 6%, nearly double the average for sub-Saharan Africa. Food production increases during the period have exceeded the rate of population growth, again in stark contrast to the rest of the continent. These sets of indicators are not contradictory. They reflect the agricultural base of the economy and the resourcefulness and diligence of the Rwandan people. They demonstrate as well that the methods which have worked for Rwanda in the past cannot be employed in the future, and that the nation will need to make some fundamental economic adjustments and development investments to keep-up the growth curve. This chapter explains why.

If the population of 6.2 million continues to grow at the current annual rate of 3.7%, Rwanda will have more than 15 million people by the year 2010 (Table 1: Population Growth Projections). Density on arable land will be over 1,100 persons per km^2 (SIP, Vol. 1). Available tillable land per capita will have declined by over sixty percent, to a mere half hectare per family. Expansion of the arable land base, the means by which Rwandans have maintained economic growth to date, will no longer be possible. Agriculture will be incapable of providing productive employment for the vast majority of the rural population, currently 95% of all Rwandans; a potential rural exodus could cause urban and peri-urban populations to swell to 30% of the total.

This shocking scenario draws attention also to the productive options Rwandans have outside agriculture. At present, formal off-farm employment

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opportunities are few. Full-time non-agricultural employment currently absorbs less than 5% of the labor force. Thirty percent of the overall work force is unemployed or underemployed. The most fundamental issue the nation faces today is how to stimulate productive employment when there are low levels of literacy; poor vocational and management skills; stagnating yields in agriculture; low rural purchasing power; few non-agricultural natural resources; and an exceedingly high population growth rate.

There are four imperatives which together define the potential for development in Rwanda. The first and most important is the need to check demographic growth. Raising opportunities for employment off the farm is the second imperative. Those increasing numbers of Rwandans unable to earn a livelihood from agriculture will need to find other forms of employment. Increasing agricultural productivity is the third imperative. Adjustments to population increases in the past were made by putting more land under cultivation; now it is essential that crop yields and soil fertility be improved. The need to raise low levels of literacy and skills is a fourth imperative. Fifty-seven percent of the over age 7 population are illiterate; fewer than 3% of the age cohort go to secondary school. The satisfaction of these imperatives will be the measure of progress in Rwanda in the coming years.

In an earlier time, 1950, there was a need to reduce the high rate of mortality, which stood at 35 per thousand. A successful program of mother and child health has since witnessed a drop in the general mortality rate to 17 per thousand. Yet largely for this reason the annual rate of population growth has increased from about 2% in 1950 to nearly twice that today. The total fertility rate has remained consistently over 7.5 since 1970, and has been as high as 8.7. Reduced mortality means there is now a greater need to manage natural population growth.

The food needs of this expanding population have been met mostly by domestic agricultural production. From 1970, GDP grew at more than 5% annually, a function largely of agricultural production increases. From 1966-1983, annual food crop production increases averaged 4.3%. Production increases during this period were attributable to annual increases in area harvested, which rose by 3.7% (Delapierre 1985), and to fractional increases in productivity. The rate of land expansion has been decreasing recently, however; it was 3.1% during the 1974-1983 period. Additional land available for food crop production is minimal: no more than 65,000 suitable hectares according to Delapierre, and perhaps another 300,000 hectares of land marginal at best. If the current annual rate of expansion continues, the entire arable land base of 1,000,000 hectares will be exhausted by the turn of the century.

Farm families have slowly been adjusting to land scarcity. Productivity increases have come from double and triple cropping, intercropping, and putting the marais (wetlands) into year-round production. The cropping pattern has shifted to a greater reliance on roots and tubers, which demonstrate an average annual increase of 5.9% during the 1974-1983 period. Cereal and legume production increased at average annual rates of 4.4% and 4.0%, respectively, during the same period. There is some indication, as well, that smaller farmers are specializing in the production of fewer crops as a means of maximizing their productivity and comparative advantage. Regional specialization of production, which the Ministry of Agriculture (MINAGRI) encourages, is already practiced by many smallholders (Table 2: Major Crop Production by Agricultural Region). Specialization of production will help to focus agricultural research and should improve market organization, strengthen input supply and processing, and increase export capability; it may also raise off-farm employment.

Currently there are few opportunities for productive employment off the farm. Most jobs in rural areas are low-paying, informal, and temporary. Increased labor productivity is imperative if Rwandans are to satisfy their food needs in the future. Provisional results from the Household Budget and Consumption Survey (ENBC) indicate that for families in the lower one-half of the total expenditure category, over 70% of their consumption expenditures are for food. The greatest sources of revenue in these households are commerce and remuneration for service, an indication that individuals are seeking income off the farm to supplement their own food production with purchases in the market. This trend will increase in the future, focusing yet greater concern on the availability of productive employment opportunities and the efficiency of markets.

Land, people, and productivity: these together define the key issues in Rwanda's future. Intensification of production has underscored the importance of the land base. The need to move off the farm has made apparent the weakness in the human resource base. The lack of productive employment opportunities off the farm has revealed how dependent on agriculture rural dwellers are. This is a potentially destabilizing condition, leading to over-exploitation of limited natural resources; it is likened to Hardin's "Tragedy of the Commons" in the SIP analysis.

The development task of Rwanda is fairly clear: 1) reduce the rate of population (and labor force) growth as quickly as possible; 2) improve the employability of its workers and generate enough productive off-farm employment to absorb the annual increment to the labor force -- and more, if it is to reduce existing unemployment; and 3) increase productivity on its farms. Its success over the past two decades in increasing agricultural production should not mask the critical importance of these efforts: without

an increase in productive opportunities relative to the size of the labor force, Rwanda's overall development program will not succeed.

2. RWANDAN ECONOMIES

2.1 Macroeconomic Management

Despite formidable constraints to development, average economic growth in Rwanda since Independence in July 1962 has been very high - an annual GDP growth rate of nearly 6 percent in real terms. Rwanda has been one of the few sub-Saharan African countries to increase per capita food production. Economic management throughout this period has been prudent, as reflected in 1) relatively small fiscal deficits and a few surpluses; 2) a slow monetary expansion (below that of GDP); 3) a relatively low rate of price inflation; 4) maintenance of an external reserve ratio among the highest in Africa; and 5) a debt-service ratio (8% in 1985) less than one-third the average for sub-Saharan Africa. Throughout most of this period, government economic policy has been non-interventionist. In the agricultural sector, food prices have been almost entirely market-determined, while in the industrial sector government intervention was minimal until the late 1970's, including a relatively liberal trade and foreign exchange regime (see Smith, CDSS Economic Analysis, 1986).

Government fiscal policy has been conservative. Due to declining revenues from international trade, a fiscal surplus in 1980 became a deficit equal to -2.4 and -2.5 percent of GDP in 1982 and 1983, respectively; but expenditures were reduced and the deficit equalled only -1.0% of GDP in 1985. The level of Government expenditures and revenue has been in the 10-11% of GDP range for the last few years, which is low even by developing country standards. Low recurrent expenditures impose problems on the delivery of

needed services, especially in the health and agriculture sectors, as discussed further in Section II.1. More than a third of total revenue is derived from taxes on international trade, including a substantial tax on exports. A fairly rapid growth of domestic credit during the 1980's has been offset, monetarily, by declining international reserves, so that the resulting increase in the domestic money supply has been modest, averaging 7% annually from 1980-85. Real gross fixed capital formation rose from 10.6 to 13.7 percent of GDP between 1979-84. Gross private national savings fell from 9.8 to 3.8 percent of GDP during the same period, due to increasing public sector expenditures on current account. Interest rates are in the 9-14.5 percent range and, due to the consistently low rate of domestic inflation (averaging 6.6% so far in the 1980's), have been positive in real terms except for 1982.

The overall balance of payments declined from a surplus in 1980 and 1981 to a net deficit equal to -2.6% of GDP in 1982, but, due to import restraints and increasing export revenues, moved to a slight surplus in 1985 and 1986. Coffee typically comprises about 2/3 of total exports and tea comprised about 16% in 1985. Cassiterite and tin were once the third most important export, but the world tin market collapsed in 1985 and the company responsible for mining, smelting, and exporting went bankrupt. Imports were comprised of 42% consumer goods in 1985, with capital and intermediate goods 39% and petroleum products 19%.

Rwanda's main trading partners, the U.S. and the EEC countries, accounted for 89% of all exports and 45% of all imports in 1985. Almost all petroleum comes from the refinery in Kenya. Trade with neighboring African countries does not show up as very significant in official statistics, with only Zaire and Kenya contributing more than 1% of total trade. More substantial trade actually occurs across the borders through unofficial

channels, however, mostly in agricultural commodities. Rwanda is a member of the Preferential Trade Area (PTA) of East and Southern African countries; but until the tariffs, quantitative, and administrative barriers to trade are actually reduced or eliminated, and until member country exchange rates are adjusted to more realistic levels, not much of an increase in official trade is likely to occur among these countries.

The early 1980's witnessed a marked deterioration in both the overall economic climate and economic performance. Falling coffee prices caused deficits on both the balance of payments and budgetary accounts. Public enterprises and other industrial activities required increasing levels of protection and/or subsidies. The Rwandan franc rode the US dollar up in world markets as other currencies depreciated against it; the franc thus became significantly overvalued in real, trade-weighted terms, encouraging even more imports and discouraging export development and domestic employment generation. Austerity measures adopted in response to the deteriorating situation were enacted to curb government expenditures and restrict import growth. The deficits on external and fiscal accounts were brought under control, although they led to 3 years of negative real per capita GDP growth (1982-84). Real per capita GDP growth turned upward again in 1985, despite the collapse of the mining sector, the interruption of the main international transport route through Uganda, and falling prices for Rwanda's second leading export, tea; but the residual measures of protectionism and the pegged exchange rate have added to the development problems of the country.

These two constraints: 1) the pegged exchange rate, and 2) policies which subsidize and protect domestic industries that are overly capital-intensive and economically inefficient, are impediments to Rwandan development and call for policy reform.

The Rwandan franc has been revalued upwards, in real, trade-weighted terms, by 96 percent since 1973, just before it was first tied to the U.S. dollar, and by 65 percent during the last six years (1980-86), primarily due to the rapid depreciation of Rwanda's trading partner currencies against the dollar during most of this latter period. The pegged exchange rate has contributed to a pattern of capital-intensive development and import-dependent consumption that is resulting in the failure of the economy to achieve its most basic and urgent objective: providing productive employment, i.e. full-time, permanent, wage-appropriate employment, for its people.

Quantitative restrictions and escalating tariffs on imports are responsible for protecting several inefficient and non-viable industries in Rwanda, causing a waste of scarce investment resources, encouraging capital intensity, and reducing the real income of the nation as a whole. The Government, with support from the Africa Economic Policy Reform Program for Rwanda (AEPRP), is currently studying the entire tariff and trade regime with a view to reform. Rwanda has too few investment and managerial resources to squander them on activities that do not generate much in the way of either employment or income.

An additional constraint faced by Rwandans, known as "enclavement," is the country's landlocked position 1000 miles from the nearest port. Transport costs are high, typically adding 30 percent to the foreign exchange cost of imports. Since the northern corridor was closed in 1979, when war in Uganda cut off Rwanda's access to the Kenyan port of Mombasa, the country has sought alternative routes. Still, the northern route through Uganda remains the least expensive.

Because it depends upon its neighbors for access to the sea, Rwanda speaks of cooperation with surrounding countries. It is an economic

expedient. Restrictions on official inter-regional trade, however, reflect the unwillingness of the Government to "depend" on neighboring markets. Given the precariousness of its geo-political position, Rwanda has chosen both to strive for regional stability and not be too dependent upon it.

Rwanda's relations with its neighbors will continue to influence its opportunities for investment and growth. During the turmoil in Uganda, Rwanda's political stability made it an entrepot economy: unofficial trade and re-exports were significant. Now that conditions are improving in Uganda and structural adjustments programs are being implemented throughout the region, Rwanda may be left holding stocks it can no longer market. A reform program needs to be implemented quickly to once again render the economy competitive. The physical infrastructure for a more outward orientation is nearly in place - direct-dial telecommunications, fairly extensive electricity and water networks, and the highest density of paved roads per square kilometer in Africa (see Road Map). With the easy convertability of its currency, improved commerce and transport systems, the strength of the banking system, and a more liberal trade regime the prospects for Rwanda are encouraging; but first fundamental institutional and policy reforms must take place.

2.2 Rural Indicators of Economic Performance

The economic behavior of Rwandan rural households is only now being revealed, largely through analyses of a number of rural surveys. Major findings indicate that: 1) so-called "subsistence" farmers are market-oriented, endeavoring to earn income from diverse sources; 2) these sources, though numerous, are short-lived and irregular; and 3) overall household incomes are low, about $550/year.

The market orientation of rural households is reflected in the value of household income derived from the sale of goods and services, roughly one-half the total value of household production (subsistence production accounting for the other half). The average rural household cultivating 1.2 hectares derives most of its net cash income from the following three sources in roughly equal proportions: the brewing and selling of beer; the sale of crops and livestock; and remuneration for labor on and off the farm. Additional disposable income is obtained directly from gifts and loans. Households are dependent on farming for only one-half their income; the remainder, approximately $60 per capita, is derived from the sale of goods and services in the market.

Wage labor off the farm generally is the province of men and boys; women account for only 12% of all wage employment, mostly (84%) as hired farm labor. This involvement in the wage economy is necessary for the majority of rural families, but returns to labor are low. Rural households earn an income which is among the lowest in the world. Average annual per capita income in rural Rwanda is $120. The low purchasing power which results from low levels of income is reflected in the proportion of total private consumption attributable to the rural population - 59 percent. This is a striking indicator of overall rural poverty. The urban population, 5% of the total, accounts for more than 40% of all private consumption expenditures.

A further look at the expenditure side of the budget of the average rural household confirms its participation in the market. Of total cash income available, rural households spend 21% on food and beverages; 22% on non-food items (mainly housing, clothing and household equipment); 26% on intermediate goods (i.e. production expenses); and, 22% on financial transactions (such as loans) and transfers (such as gifts). Twenty-seven

percent of all food consumed is purchased in the market. Expenditures for agricultural production represent only 14% of the gross value of agricultural sales, reflecting the very low level of technology and input use in Rwandan agriculture.

An additional indicator of the market dependence of rural households is the relatively high import content, over one quarter, of household expenditures. The purchase of clothing accounts for about one-half of expenditures on imported items. Household equipment, construction materials, salt, and beans are other important import items.

Rural households spend as much on imports as they earn from the sale of export crops. Coffee, grown by 50% of the farm population, accounts for about 10% of rural revenues. Policy makers could increase farmer interest in coffee production -- which contributes 70% to total foreign exchange earnings -- by permitting them to add to and/or receive more of its value. In the past decade real producer prices for coffee have been allowed to decline by 46.8%; it is likely that quotas have been met through unofficial trade.

Rwanda's agro-ecological diversity also contributes to the market orientation of farmers. Farm size, extent of land fragmentation, crop production, and livestock ownership vary significantly among the five major agro-ecological zones, requiring that goods be moved from surplus to deficit areas (see Agro-ecological Zone Map). This seems to occur with relative efficiency. According to monthly retail prices of four major agricultural commodities, which are reported not to vary significantly in markets around the country, the marketing system is reasonably effective in equating supply and demand (SESA: Agricultural Statistics and Survey Unit). Prices are more correlated among major markets since paved roads have been constructed linking

them. Rwanda's investments in the construction and maintenance of a dense road system offers significant opportunity for the evolution of the market economy.

With the development of the primary road network has come growth in the number of small, rural market places. These are commercial centers, not centers of habitation, but could become "villages" with additional investment in infrastructure, such as water, electricity, and market stalls. They are potentially even more important as growth poles for aggregating and employing the rural population away from major urban centers.

The different regional patterns in land use discussed earlier prevail despite the homogeneity in major labor characteristics of rural households; average age of household head (46), number of persons (5.0), and number of persons aged 15-64 per household (2.5) are invariant across zones. This has led some observers to argue that production and yields in regions with larger farms could be increased in the short term with existing technologies and more hired labor if more profitable market outlets could be found. One way this could be accomplished is to promote exports. The growth of agro-industry is crucial also, as it would pull potentially marketable surpluses into processing and improve the demand for production-enhancing inputs such as improved seeds. Equally important, agro-industry would provide productive employment for the underemployed rural population and increase the effective demand for agricultural products. In addition, efficient markets and surplus production should lower food prices, allowing wages to be kept low and thereby further stimulating employment in other sectors of the economy.

In summary, the following observations can be made at this time about the economic behavior of rural households.

* Farm households, especially poorer ones, are dependent on the market. The market will need to remain efficient because even more people will be dependent on it in the future: there will be more consumers and relatively fewer producers.

* Families, and again especially poorer ones, need to purchase food and other items. To do so they sell agricultural products and labor to obtain cash. The banana is the most profitable crop and the most important agricultural source of income for rural households. Overall household income, however, is low and undiversified.

* Household access to existing technologies and inputs is limited; it needs to be improved to raise agricultural productivity.

* There is limited incentive for raising agricultural production for market on a sustained basis. There is insufficient effective demand -- more than 90% of the households in the country produce food and the market dependent population has limited purchasing power.

3. SECTOR ACTIVITY

3.1 Population, Education, and Health

The continued rapid growth of the Rwandan population constitutes the single greatest threat to the nation's economic and social development. Already resource poor by conventional standards, Rwanda must make every effort to be sure that by the year 2010 its population has no more than doubled. The President and the Central Committee of the MRND (Mouvement Revolutionaire National pour le Developpement) repeatedly call for a reduction in the size of the family. The message is conveyed to newlyweds at marriage. A National Population Office (ONAPO) has been established. Yet the need to curtail demographic growth is so urgent that greater effort and resources are required.

ONAPO was created in 1981 and charged with defining the government's population policy and implementing a country-wide family planning (FP) program. As articulated in the Third National Plan (1982-1986), demographic policy had as its major objective stabilizing population growth at 3.7%. To that end, an education campaign was undertaken and delivery of FP services

begun in each prefecture of the country. In the draft Fourth National Plan a population growth rate of no more than 3.2% has been targeted.

It is estimated that some 20,000 women, or about 1% of the child-bearing age cohort, are acceptors of FP (SIP, Vol. 3). This statistic signifies a change in consciousness of the Rwandan population. In 1981 family planning was little known among the populace. By 1985 the extent of the public's awareness of the population problem was considerable. The 1983 National Fertility Survey revealed that 67% of Rwandan women knew of at least one modern method of practicing family planning, a percentage high by African standards. In the same survey, 86% of the respondents claimed that the population was growing too rapidly, demonstrating that recognition of the demographic problem is widespread in Rwanda.

The National Fertility Survey revealed that there is a large unmet demand for family planning services in the country - 20% of women at risk do not desire another pregnancy. To reduce the population growth rate to the GOR's target of 3.2% by 1991, the number of contraceptive users must increase by more than sevenfold, to over 140,000. To accomplish this the FP effort must focus more on service delivery.

It is equally clear that ONAPO's ability to assure the delivery of these services is becoming administratively encumbered by too large a central staff, inadequate control and supervision, and poor financial accountability (USAID Report on ONAPO, 1986). It is dependent upon external financing, and the considerable support the President voices in his speeches has not been met by a corresponding budget support. USAID is still the most active donor in family planning, contributing nearly 50% to the ONAPO budget. UNFPA supports a variety of population activities and helps to meet about 9% of ONAPO's costs. ONAPO needs to: 1) achieve cost-effectiveness by linking its planning

and budgetary processes; 2) undertake operational and clinical research to improve the quality and efficiency of its services; and 3) specify the modalities for collaboration with the Ministry of Health (MINISAPASO). These efforts, plus increased GOR financial support for operation costs, are needed to improve service delivery to meet the 1991 target.

One key determinant of family planning adoption is the state of maternal and child health (MCH). Rwanda endorsed the World Health Organization (WHO) goal of health care for all by the year 2000. National vaccination and ORT programs are underway, supported by UNICEF and AID (CCCD). Yet child mortality still is high at 224 per thousand. The weaknesses in health care service are familiar: inadequately trained personnel, poor management, shortage of medicines and materials, insufficient financial resources, and increasing inefficiency with growth, to name but a few. The GOR counts on donors to meet financial, material, and human resource needs in this sector, having allocated relatively few of its own resources to health care activities.

The nutritional state of the Rwandan population, an essential indicator of overall health, is not well understood. Food imports, trade, and domestic production are thought to provide 100% of energy requirements, 80% of protein, and 50% of fats. The Food Aid Assessment (1986) claims this is not an "alarming" situation, and goes on to reference "poorly documented reports" in which protein deficiency is said to occur in 30-40% of the 2-5 year old cohort, and some prefectures are said to have higher rates of malnutrition than others. It is generally agreed that while there are seasonal acute food shortages and undernutrition, and serious nutritional deficiencies among some of the rural poor, infants, and young children, Rwanda is for the moment meeting its food needs.

NGOs traditionally have played an important role in MCH, providing approximately two-thirds of all health care. They are taking steps to increase coordination and research to develop more efficient systems of health care service delivery. NGOs and donors will continue to play major roles in improving the administration of the health care system, and the supply and distribution of drugs and materials. They will encourage the GOR to devote greater resources to health care -- where budget allocations have been stagnating in real terms, and promote realistic user fees in both private and public sector health facilities to help meet the recurrent costs of operations.

A review of the health sector in Rwanda in 1987 is incomplete without mention of Acquired Immune Deficiency Syndrome (AIDS). While reliable statistics are not yet available, some reports have placed the presence of AIDS antibodies in 24% of a sample population using ELISA and Western Blot (Feldman 1985). While the President has recently stated that efforts should be made to inform the general population about AIDS, there is currently in country no active education program and only limited research. There are reports of considerable interest and activity in Government, however, and change may be imminent. In view of the very possible epidemic dimensions of this problem, including the cost in economic development as well as human terms, continued and close monitoring of the situation is called for.

Levels of education and employability are also important determinants of population growth. The education system in Rwanda is meant to steer students down vocational tracks so that all of them will have a useful skill to market. However, the current evidence indicates that 1) low numbers of students are completing primary school, 2) a fraction of them are admitted to secondary school, 3) the lowest percentage in Africa (three-tenths of one percent) of the age cohort complete secondary school, 4) post-primary

vocational training is costly and of poor quality, and 5) the university curriculum is not meeting the development needs of the country. With 80,000 new entrants into the labor force each year, it appears as though unemployment is going to be restricted more to a relatively poorly educated rural class than to a better educated urban class. This may minimize political instability, but it is also having profound economic consequences throughout the nation insofar as the burgeoning population is not being prepared for more productive employment through appropriate training and education.

Intervention in this sector is needed, but where and how are harder to determine. There is good reason to be watchful and wait until the Rwandans themselves decide that a more efficient and effective program is needed. Renewed support to CERAIs (post-primary vocational schools), strategically placed advisors at the National University (UNR), and the exciting phenomenon of private secondary schools funded and managed by parents all merit consideration. Policy reform and institutional change through decentralization may have the most profound overall impact; however, the GOR has not been receptive to policy dialogue in this sector.

Developing human resources -- particularly through the provision of family planning services, and literacy and skills training -- is one of the most fundamental and worthwhile of assistance interventions. However, the evidence suggests that careful consideration be given to formal intervention in education and assistance in family planning. In the former instance, the Government is still trying to negotiate an efficient and effective program in the most controversial of all aspects of Rwandan development. Family planning is a less debated subject, but convincing Government support for FP is lacking and public institutions function poorly. The demographic imperative is so

great that intervention is required; yet unless the GOR demonstrates greater commitment to the FP movement in the coming years, donors will have to carefully assess the modalities of future assistance in this arena.

3.2 The Non-Agricultural Economy: Industry, Manufacturing, and Commerce

An important determinant of growth in Rwanda is the performance and direction of growth in the non-agricultural economy, still in its infancy. If the non-agricultural economy does not provide the effective demand for agricultural products, if it does not productively employ people who leave their farms, and if it does not produce the products needed and wanted by the majority of consumers, then it will not stimulate the growth in agriculture which is needed for overall economic growth to occur. Currently the non-agricultural economy contributes more than 50% to GDP, but provides employment for less than 5% of the population. (Table 3 shows the percentage contribution to GDP by sector and the rate of growth in each sector.)

The most important and troubling elements in this sector are industry and government. Industry employs only 40,000 people on a permanent basis but contributes 17% to GDP, a demonstration of its relative capital intensity. Outside of coffee and tea processing, industrial development is still limited. Like many African countries, Rwanda's industrialization strategy has thus far relied heavily on import substitution geared mainly to the nation's 80-100,000 high income consumers. Most food processing enterprises, other than coffee and tea, suffer from irregular supplies of raw materials since they cannot afford to pay the incentive prices needed to encourage domestic production. Many are badly managed and run at low capacity.

The importance of Government in industry and manufacturing has been growing since the mid-1970s. As much as fifty percent of the modern manufacturing sector's value added is currently generated by enterprises with

majority public ownership. GOR participation also is exhibited in the policy framework. Until the late 1970s, a prominent feature of Rwanda's industrial policy was its relatively liberal trade and foreign exchange regime. It provided a climate for growth in small and medium scale enterprises producing basic products for the mass market. This condition changed with the advent of the Second Five Year Plan, 1977-1981, as the GOR invested large surpluses -- accumulated during the coffee boom of the late 1970s -- in large-scale, capital-intensive parastatal enterprises. In early 1983 new restrictive measures were applied to halt the deterioration in the balance of payments and in the level of external reserves, as discussed in Section I.2.1. While several of these measures have since been relaxed (controls over imports and prices), there remain considerable uncertainties within the business community, such as it is, as to the possibility of their renewed application should there be further balance of payment problems.

The net effect of Government intervention in the industrial sector, including its reluctance to devalue the franc, has not been positive. World Bank estimates of the effective rates of protection and domestic resource costs of 20 selected manufacturing enterprises show that half of them are currently economically viable. Those that are not viable either are accorded total import protection or are otherwise protected by tariffs. The analysis also shows that a devaluation by itself will not make these inefficient enterprises more competitive. This is not to suggest that an active exchange rate policy cannot play a useful role in Rwanda's economy, but rather that more dramatic technical and managerial solutions (including shut downs) are also called for to increase significantly the efficiency of input use and thus to decrease production costs.

Industrial policy has encouraged the growth of inefficient modern enterprises whose survival depends on restrictive trade policies. A recent study of the clothing sub-sector (Haggblade 1986) has demonstrated that tariff, tax, and trade policies have negative effects on artisanal tailoring, while favoring one large textile firm. Rwanda cannot afford to pursue policies which favor a privileged few in modern manufacturing at the expense of the majority seeking income in productive employment off the farm.

The key issue in the development of commerce and industry is its linkage to the agricultural economy. The recent pattern of industrialization based on new, large, public, capital-intensive, modern enterprises cannot be pursued in the future. This strategy, with a cost of $40,000 per job created, will not solve Rwanda's pressing unemployment problems. The relatively high industrial growth rate achieved in the past (9% per year) cannot be sustained if the rest of the economy, particularly the agricultural economy, grows at only 3-4% per year. If agricultural productivity is to be increased, an important role of industry in the medium term is to support the development and modernization of agriculture. The Government now is giving priority to the development of a comprehensive agro-industrial policy.

To promote this role for industry, the following major issues must be addressed:

* the inadequate institutional and policy framework for the development of micro, small, and medium enterprises;

* the inefficiency of existing enterprises; and

* reform of the incentives system to allow greater competition, encourage economic efficiency, and promote private sector investments.

The major actors in addressing these issues are Government, private entrepreneurs, and the support network, including the financial sector. Apart from scaling back the public industrial investment program, strengthening management of public enterprises, and finding private investors to share in their management and ownership, the GOR must undertake additional action.

* To ease the constraints on the growth of new enterprises, the administrative procedures for establishing enterprises must be streamlined. Also, action is needed to facilitate access by SME's to credit, foreign exchange, and information on off-shore procurement of appropriate technologies, machines, and equipment.

* New policies need to be developed and implemented to assure greater uniformity of the incentive system to promote more efficient resource use. Balance of payment problems should be dealt with through price and and exchange rate actions, and not restrictions such as import licensing mechanisms. These restrictions are benefiting a few producers, and not the consumer majority, by granting them near monopolies without obtaining reductions in costs and prices, or increases in quality.

* Tariff reform is needed to evolve a more uniform structure with the objective of establishing more neutral incentives for all manufacturing firms. More competition is needed so that price controls can be reduced. Tariff reform also will help to remove the anti-export bias of the existing incentive system and put exporters on a more equal footing with import substitution industries.

For an entrepreneurial class to develop, the market must become more diversified. This requires that new ideas be generated and transformed into potentially profitable proposals. Currently the housing, trade, and transport sectors are saturated, and bakeries, poultry, and brick may soon be. Identifying new investment opportunities suitable for the Rwandan mass market and which Rwandan entrepreneurs can successfully develop technically is essential. There is need for more information, painstaking market analysis, adequate business plans, appropriate technical support, and

assurances of good management. The development of these services also outside Kigali will be especially critical to promoting balanced geographic growth in rural areas.

Government, the financial system, and others must help those individuals in the private sector who have marketable concepts to get started by assisting them in transforming their ideas into proposals. Poorly developed proposals to date have given lenders cause for their lack of confidence in the business acumen of private entrepreneurs.

Project financing is another limiting factor in enterprise development. Despite the overall strength of the banking system -- the autonomy of the central bank (BNR), a solid development bank (BRD), and a nationwide network of cooperative banks (Banques Populaires) -- there is excess liquidity throughout the system, with only the BRD providing term debt. Foreign banks and suppliers rarely are approached for term credit and technical assistance nor are they interested in providing them except to a narrow range of large-scale projects. The lack of financing options and competition in the financial market is aggravated by the scarcity of local financial packaging techniques (Equator 1986). Both the BRD and the Banques Populaires have some in-house technical assistance capacity and cooperate with others to develop loan portfolios. The BRD is aggressively seeking to obtain donor support for staff development and project monitoring to increase their capability for rural term lending. Commercial banks, which have clear priorities and expertise for the provision of heavily secured short-term lending, are not likely to address the demand for term lending.

3.3 Agriculture and Natural Resources

Rwanda's agricultural performance has been excellent since independence; the growth rate of food crop production has outpaced the rate

of population growth. Production of traditional cash crops -- coffee and tea -- has increased and continues to be the major source of foreign exchange for the economy. New cash crops -- rice, sunflower, sugar, soybeans, fish, and wood -- have been introduced, while wheat and dairy are regaining momentum after years of dormancy. Potatoes and livestock (especially hides and skins) may become new and potentially important sources of foreign exchange through inter-regional trade. Land under tree cover has expanded significantly since the 1950s. Official food imports generally have had a minor role in meeting food needs (less than 4% of total grain production).

Rwanda has achieved this growth through the hard work and discipline of its 1.2 million smallholders. Growth has occurred without subsidies, large-scale commercial farms, mechanization, or technological breakthroughs. Agriculture has performed well without growth in agro-industries, despite the lack of input supply/credit/distribution systems, and in the absence of a significant rate of growth in effective demand by the market dependent population. Future performance, however, is not likely to be as impressive without fundamental institutional and policy reforms.

Farmers are not adequately supported by their government. Only 4% of the recurrent and development budgets is devoted to agriculture; only 15 of 1100 annual UNR graduates are from the Faculty of Agronomy. Donor projects have focused too much on integrated rural development while ignoring institution building and technology development and transfer. The policy environment has not promoted agriculture. Exports have been discouraged, inputs have been highly priced and not well distributed, and impediments to private sector investment have been numerous and inhibitory.

These factors, coupled with Rwanda's population growth rate, an already high population density, and an inelastic land base which threatens to become degraded and mismanaged, have brought agriculture to a turning point. Agriculture must now come to terms with the following future trends.

* It is likely that by the year 2000 Rwanda's non-agricultural population will have grown from 7% at present to 30% of the total, increasing the demand for food.

* This increased demand, if it is not to be met by imports, will heighten farm level competition with Rwanda's traditional export crops at a time when these crops have been facing long term real price declines. This could have severe effects on the GOR's foreign exchange earnings, to say nothing of its impact on the budget.

* As the agricultural economy becomes more commercially oriented, major changes will have to take place in marketing channels, support institutions, and product transformation industries.

* Agricultural intensification will require more careful land-use planning and management of the natural resource base.

* Out-migration from agriculture will be accelerated to stop further uneconomic subdivision of inherited land.

The critical issues facing agriculture will be functions of Rwanda's ability to:

* generate and/or adapt new technologies that will be readily used by farmers to increase productivity and production while improving the quality of the land base;

* productively employ the people who will, and inevitably must, leave the farm and whose purchasing power will provide the incentives needed to sustain agricultural production increases in the long run;

* develop private sector channels for technology distribution and food processing; and

* strengthen key institutions in the agricultural support system, especially for research and training.

The search for new technologies is linked to the development of ISAR, the national agricultural research institute. ISAR is currently focusing on

improving commodity research and using a farming systems approach to inform the work programs of research scientists. The key to ISAR's success will be its linkages with the IARCs (International Agricultural Research Centers) for access to technologies which can be imported, tried and adapted to Rwanda; and the National University (UNR) for support to research and a greater supply of suitably trained graduates.

The greatest payoff can be expected from research on varietal improvements, especially for those crops which have a market among the mass of consumers in rural areas. The success in potato production is a good demonstration of of this approach. Additionally, promise is held by agroforestry for soil improvement in low input farming systems, and more carefully managed development of the increasingly heavily cultivated marais.

The Ministry of Agriculture (MINAGRI) also is undergoing a reorganization with the following implications for technology development: it intends to reorient projects toward a sector or commodity specific focus where they will be confined to easily defined objectives; and, in its strategy of agricultural intensification, the Ministry is promoting the regionalization of crop production. Regionalization is meant to focus government resources on those crops in zones where investments are likely to have the greatest payoff. This will permit cultivators to obtain the greatest returns for their efforts and will stimulate inter-regional trade and market specialization.

The development of marketing and processing enterprises is crucial to creating increased demand for agricultural products. Efforts by farmers to raise productivity, however, will require that they have regular access to improved seeds, soil amendments, improved tools, and the means to control against pests and disease both in the field and in storage. Of these technologies, improved seeds hold the greatest promise in the short term;

their multiplication and marketing represent opportunities for major private sector investment.

The second most promising intervention is improved soil fertility. The intensification of agriculture, the key to increases in overall agricultural production, will demand a complementary focus on the protection of soils, increased soil fertility, and management of hydro-agricultural systems. The GOR has been vigorously underscoring the fragility of the land base and efforts have been made to check erosion and protect irreplaceable natural resources. These are but preliminary steps, however. Mountain forests and their fragile ecosystems are essential to maintaining hydraulic resevoirs, but they are insufficiently monitored to elucidate their regulatory role in water catchment protection. The wet lowlands (marais), 45,000 hectares of land with the potential to be recuperated for agriculture, are not presently managed. Erosion control is a major extension theme, and currently 63% of all arable land is protected by ditches topped with fixed grass hedges; yet this method is admittedly not appropriate for all conditions. Reforestation has added 44,000 hectares of land under tree cover since 1976, but efforts will need to be greater to meet prospective demand for wood.

Priority needs to be given to the development and implementation of forest and afromontane forest management plans, the preparation of multiple-use impact assessments of forests and marais, and the testing of soil conservation measures, including agroforestry. ISAR, ICRAF -- the Nairobi-based agroforestry research institute -- and various departments in the MINAGRI are addressing these issues to some degree, but there is no overall coordinated effort to deal with the management of natural resources.

4. FUNDAMENTAL ISSUES IN RWANDAN DEVELOPMENT

4.1 Managing Population Growth

Rwanda has witnessed the doubling of its population in the past 20 years and massive growth in the under 15 age cohort, which currently comprises 46% of the total. This trend underscores the urgency of economic growth and is stressing the capacity of social services to meet the educational and health needs of the Rwandan people. Even under the most optimistic scenario the population is expected to double again by the year 2010; at worst, it will nearly triple. The implications of continued rapid population growth are staggering, especially in light of current levels of employment, agricultural production, and education. Managing population growth is the sine qua non of Rwanda's development.

The success to date of the family planning effort in raising the consciousness of the population to the severity of the demographic problem is only an initial step in managing population growth. The fertility rate must be decreased and the number of FP adopters increased significantly in the coming years to make a real difference. To accomplish this the FP effort must improve service delivery. Higher levels of education and employment for women also are fundamental to this effort, as demonstrated by the proportion of women acceptors of FP who are literate: sixty-four percent. This is nearly twice the overall literacy rate for women in Rwanda.

Policy and institutional reforms are called for. The relatively meager resources the GOR has allotted to FP must be increased. The cumbersome system of inconsistently applied regulations which govern eligibility for FP services must be revised and made more uniform to enable more of the public to access the system. Public agencies, most notably MINISAPASO and ONAPO, need to improve their management and coordination.

Private agencies, i.e. NGOs, have performed better than public institutions and should be encouraged to expand their family planning services.

4.2 Generating Income Growth through Agriculture and Off-Farm Employment

Despite the excellent performance of agriculture over the past 25 years, production increases are not expected to keep pace with population growth. Virtually the entire arable land base will be under cultivation by the year 2000, and population density on tillable land will exceed 800 persons/km^2. The market dependent population will increase from 7% to 30% of the total. Without new and profitable technologies, it is doubtful that Rwanda will be able to feed itself. There will be more severe land tenure problems and increased fragmentation of holdings. More people will be forced off the land to search for employment outside agriculture. Even a more productive agriculture sector is not likely to provide employment for its own population growth (Mellor 1986). Effective demand for food, which the non-agriculturally employed must create with increased purchasing power, will heighten competition between food and export crops. If agricultural production cannot meet this demand, prices and wages will rise. Labor will become relatively more expensive, unemployment will increase, and the economy will become more dependent on foreign aid.

Agriculture, the major determinant of economic growth, is at a critical juncture. It must be transformed and its support network significantly improved. Policies and programs are needed to promote a more commercial, research-driven orientation. Technologies are needed to raise yields and lower the costs and risks of moving surpluses to market. The role of key institutions as partners in the task of technology development is crucial. So is the role of the non-agricultural economy, especially the private sector, in the production and timely provision of appropriate inputs and in marketing farm products.

The poor performance of the non-agricultural economy, its direction and nature of growth, is, after the population problem, the most severe impediment to agricultural development and economic growth. Industry performed well until the late 1970s as manufacturing developed through the efforts of small, efficient firms and the activities of artisans producing basic goods for the population at large. With the Second Five-Year Plan (1977-1981), Government interventions delinked industry from agriculture; resources were employed to create large, modern, capital intensive enterprises, many Government owned and managed. Policy still favors these firms to the detriment of smaller, more efficient enterprises which require lower investments per job created and are more appropriate for the level of entrepreneurial skills that now prevail in the country. As a result, commerce, manufacturing, and industry employ less than 5% of the population on a full-time basis.

This sector threatens to become an urban enclave, neither fully using domestic resources nor producing products needed to help modernize agriculture and raise its productivity. Worse, an institutional and policy framework is evolving which is biased against agriculture and private enterprise. Poor policy has eroded agricultural incentives -- especially for export crops and efficient import substitutes -- and created a low-profit, high-risk environment for business and banking. Private initiatives are discouraged by cumbersome regulations. The promotional functions of institutions are diluted and uncoordinated.

The key issue now is to relink industry with agriculture and the rural economy through the promotion of appropriately scaled enterprises which can mobilize domestic resources and be effectively managed by an evolving entreprenuerial class. Government must undertake a series of consistent

reforms in tax, tariff, interest, and exchange rate policies to improve the incentive environment. Government and donors must work together to coordinate and improve the support network for small and medium scale enterprises to assure that they have access to information and technology needed to exploit investment opportunities suitable to the Rwandan market and those in neighboring countries.

II. GOVERNMENT OF RWANDA AND DONOR PROGRAMS

1. GOR PERFORMANCE AND THE FOURTH FIVE YEAR PLAN

The Government's Third Five-Year Development Plan, 1982-1986, flagged agricultural production, labor-intensive industry, domestic production of essential goods, and the social and administrative infrastructures as priority areas. Performance was below expectations in some important areas, such as industry, with the collapse of the mining sector and the steady decline in the production of pyrethrum and cinchona. The growth of employment was far less than what was needed to accommodate all the new entrants in the labor force. The economy continued to be dependent on coffee and tea for foreign exchange. Exchange restrictions to control imports were employed to correct balance of payment deficits. Yet agricultural production exceeded population growth, transport and housing flourished, and education was expanded. Public investment carried the burden of development during the last plan period. Now Government will seek investment from the private sector to realize the goals of the Fourth Plan. This will require reform of the institutional and policy framework biased against private enterprise.

The performance of public sector institutions in Rwanda is mixed, with some possessing the human, material and financial resources needed to enact

their mandates, and others barely functional at all. These are reviewed in the SIP. Much of the problem can be tied to the burden which the GOR faces in absorbing donor initiatives. Lacking the human and financial wherewithal to provide counterparts and counterpart funds, the Government has resisted assuming a recurrent cost burden which it cannot meet.

A look at Ordinary Budget allocations for the period 1983-1987, Table 4, reveals that the Government is placing emphasis on primary and secondary education, macroeconomic management, and defense. These allocations are deceptive. The relatively large support to education has not spurred equity in the educational system; major expenditures are made to house and feed those elite students who attend secondary school. The large allocation to the Ministry of Finance and Economy in 1986 and 1987 will enable Government to meet its obligations and guarantees to investors in SOMIRWA, the bankrupt mining parastatal. Defense expenditures are, in fact, low by African standards and serve to support a national guard, not parades or other flamboyancy. Notable as well are the allocations to agriculture, research, and communal development, which are consistently low throughout the period.

The largest expenditure items on the recurrent budget are salaries, interest on the public debt, and subsidies to parastatals, this last decreasing since 1985. (Table 5, which records GOR budget expenditures, disguises the declining support to parastatals. Much of the 1986 allocation is to meet guarantees to investors in SOMIRWA, as discussed above.) These three items accounted for 75% of total budget expenditures in 1986, compared to 60% in 1982. Doubling interest payments in 1984, when the public debt mounted, has crowded out other recurrent expenditures needed to mobilize development resources. For example, expenditure items affecting the productivity of government employees (internal travel, per diem, gasoline

and vehicle maintenance, equipment and supplies) have been cut back over the last three years. It is no surprise that the Government looks to donors to take up the slack. Because poorly executed projects may do more harm than good, donors will be compelled to address more seriously the recurrent cost implications of their activities in the future.

The central theme of the next GOR Plan is built on the twin axes of "auto-developpement rural" and "auto-suffisance alimentaire." The former concept calls for grass-roots participation in development, focusing on the Commune as principal actor. The latter term describes the strategy of food self-reliance. Repeatedly in recent speeches the President has spoken of this idea defined in its broadest sense, and specifically to exclude autarky.

The GOR's strategy is best articulated in the President's speeches. "Rural Self-Development" is a call for the increased participation of local groups in decision-making and productive activities. They have been asked to elaborate a program of diagnostics and a plan for development to address problems of agricultural production, transformation, and value-added, and to improve nutrition, habitat, health, and education. The Commune should be a "pole" of development, tying together cultivators and youth, churches and NGOs, women's groups and parent associations, in a communal strategy centered on the promotion of increased productivity.

In practice this strategy often translates into a "you're on your own" approach to revenue generation (see the SIP, Vol. 1, for a characterization of the Commune as entrepreneur). It remains to be seen whether the GOR will devolve greater authority along with this call for increased responsibility. In any case, this strategy has important implications for raising rural incomes, generating local private initiatives, and employing NGOs; the full meaning of auto-suffisance alimentaire makes this clearer yet.

In the President's interpretation, auto-suffisance alimentaire means increased agricultural production, both for home consumption and commercialization, the provision of productive non-farm activities, raised rural purchasing power, and reduction in family size. The bottom line is proving to producers that their efforts will be profitable, enabling them to improve progressively their standard of living. The economic viability of this strategy, as it is argued, depends on the development of non-agricultural activities for input supply and output value-added. Development outside of food crop production is seen as essential to help stimulate agriculture, to augment effective demand.

Key actors in government are attempting to implement the auto-suffisance alimentaire policy according to their own mandates. The Ministry of Finance feels it means restrictions on commercial food imports and price supports. The BRD wants to extend term credit on a cash flow rather than collateral basis to individuals engaged in rural enterprises, especially in agriculture and animal husbandry. The Ministry of Agriculture believes that regional specialization of production for domestic and external markets is the key. ISAR supports specialization at the farm level and is concentrating research on fewer crops. These differing interpretations demonstrate how government agencies are seriously grappling with the practical aspects of working with farmers to raise production and yields, an effort which will stimulate off-farm initiatives as well. AID can participate in this dialogue to help formulate a coherent approach to rural-based development.

There are a number of additional priorities which the GOR will be highlighting in the next Plan. A more carefully conceived program of food imports, including food aid sold at prices higher than those for domestic

substitutes, is being called for. Rising food imports are viewed as prejudicial to the Rwandan economy. Basic items not produced domestically and needed, such as salt, will continue to be imported. Other items produced in insufficient quantities domestically, such as vegetable oil, should be imported under a restricted program of food aid, and are seen as support to the balance of payments. Development projects financed from local currency generations will only be justified if they increase agricultural production.

Reduced direct government involvement in the economy is planned through the promotion of private companies, cooperatives, and mixed companies. Reform in tariff and fiscal policy, and in the commercial and investment codes is intended to help bring this about.

Reducing the size of the family is a stated priority, but ranks relatively low in terms of government resource allocations. The AIDS threat to the health and welfare of the population will be addressed through improved dissemination of information and support for AIDS research.

A call for re-examination of the educational reform is being made to improve teacher training, increase opportunities for students in higher education, and promote private schools. Support to women's education is underscored, especially as a means of inducing family planning.

This apparently sound plan will require major institutional and policy reforms. Donors can help to bring them about by assisting Government both in identifying potential reforms and developing the means for implementing them.

2. DONOR PROGRAMS

Donor programs are significant in Rwanda but are currently under reexamination in nearly all sectors. Donors have been asked to re-think their own roles, to identify their own comparative advantage.

In the policy and private sector arena, AID's catalytic role has begun to bear fruit. Until recently, the IMF had been the principal supporter of trade and exchange rate issues. Now Belgian and French economists have joined the debate. The World Bank and the German Cooperation have become interested in macroeconomic reform, but are waiting to see how the Government treats tariffs and the investment code. Elements within UNDP are advising that technical consultations be increased on nearly all macroeconomic issues. The U.S. is viewed as one of the leaders in promoting institutional reforms needed to implement economic policy change. Only the EEC, among the major donors, has continued to stay away from macroeconomic concerns, focusing instead on expanded agricultural credit and use of chemical fertilizers, subsidized if necessary.

In agriculture, support is divided among research, technology transfer, and institutional development. The World Bank is assisting ISAR with agricultural research and the MINAGRI with extension and, with UNDP, improved staff functions. The Canadian government, long the major donor at the National University, has not moved on increased support to the Faculty of Agronomy, perhaps for the same reason that AID has not -- fundamental reforms in research and training must first take place. The FAO, a newcomer to Rwanda, will help the seed multiplication effort. AID is encouraging it to seek private sector involvement, as Belgian assistance in this activity has focused exclusively on the public sector. The EEC, too, is working with public entities to improve agricultural markets, in contrast to AID's advocacy of a greater role for private enterprise. The Swiss, for whom Rwanda is the top priority country in the developing world, are concentrating on cooperatives, banking, exports, commerce, and forestry.

AID has taken the lead in the policy arena to promote off-farm employment through the AEPRP. The success of an ILO project in the informal sector also has created considerable donor interest in off-farm employment. The French, Belgians, Swiss, and UNDP all are interested in stimulating market outlets. They have not yet made specific commitments, however, Meanwhile, local PVOs have demonstrated a strong capability in this sector in skills training, technical assistance, and the identification and application of appropriate technology.

Developing human resources also has been high on donor agendas in the past. Belgian and French efforts continue in support of primary and secondary education. NGOs are active in this sector. In health and population, the Ministry will receive a $10.8 million loan from the World Bank for, inter alia, family planning. UNICEF is a major supporter of child survival activities. UNFPA assists the family planning effort, although it is well behind AID in overall contributions.

Total donor support to Rwanda in 1985 was on the order of $188 million, or $32 per person; this is an amount equal to 100% of the ordinary GOR budget. Table 6 presents major donor investment in Rwanda in 1985. Table 7 breaks down donor programs by sector and highlights lead donors. AID, for example, is the lead donor in support to private sector development and family planning. The Germans, World Bank, and EEC are major donors in infrastructure development, such as roads, telecommunications, water, and electricity. Donors are trying to redefine their roles and sectors of activity more precisely. The GOR is trying to assume greater responsibility for coordinating donor assistance.

III. STRATEGY

1. AID ASSISTANCE OBJECTIVES

The U.S. has few direct strategic, economic, or political interests in Rwanda. The stability of the country, however, is of great concern to the United States as it affects neighboring countries where our direct interests are greater. The AID program contributes to U.S. interests by making important contributions to the stable development of Rwanda, as well as by demonstrating the benefits to development of more free-market oriented policies. The USAID Rwanda program is and will be based on indicators of performance. Since Independence in 1962, few other African countries have matched Rwanda for steady growth and sober management. Working relationships with Rwandans are excellent and the development environment is productive. Programs and levels of assistance can be planned while minimizing assumptions about the destabilizing effects of factors beyond the control of the Mission.

Rwanda has demonstrated an unusually strong economic performance since independence, the basis for the common assessment that it is one of only five or six sub-Saharan African countries that work. As such, it has the potential to assume a significant role in the regional economy. It is politically stable, and its considerable infrastructural investments make it attractive as a regional service center and commercial crossroads. Yet despite this potential, the benefits of economic growth in Rwanda are not presently apparent among the majority of the rural populace, most of them still poor and illiterate. Demographic trends magnify the significance of this condition. A grossly unemployed, underemployed, and insufficiently productive population will threaten continued political stability, economic growth, and social development. Thus, the goal of the AID development assistance program is to raise per capita income of the rural majority.

2. ELEMENTS OF PROPOSED STRATEGY

To achieve this overall assistance goal, the Mission will focus on two interrelated problem areas:

* managing population growth; and

* raising rural incomes.

The first problem area (and program element) requires a drastic reduction in fertility rates. The second problem area entails two additional program elements:

* generating productive off-farm employment; and

* raising agricultural production through a more research-driven, market-oriented agriculture.

Our analysis shows that progress in each of the three program elements will be conditioned by key institutional and policy reforms. These are needed to assure that the majority of Rwandans will reap the social and economic returns from the significant investments made to date in physical infrastructure and development. Key institutional reforms common to all three program elements are:

* increasing the role of the private (including PVOs) vis-a-vis the public sector; and

* improving the efficiency of public sector institutions.

Key policy reforms common to the three program elements are:

* removing impediments to increased private sector investment;

* removing constraints to domestic resource utilization and the evolution of a productive and skilled labor force; and

* increasing public sector resource allocations to priority sectors and development activities.

The Government's progress in taking these reforms will condition the level of assistance furnished by the Mission.

Conspicuously absent in our strategy is a program element supporting the formal education sector to address the problem of inadequate human resources. Management constraints on the Mission are one factor influencing this decision. As well, AID lacks the entree for effective dialogue on institutional and policy issues in education. Lack of policy dialogue rendered only minimally effective our previous, and now terminated, assistance in this sector. We do intend to address this fundamental lacuna through targeted project support for academic, business, and technical training overseas; and perhaps selected institutional support to faculties at the National University (Agronomy, Economics, Business Administration), and informal training through local organizations such as the cooperative training NGO, IWACU. On-the-job training of Rwandans under the guidance of high level advisors, already demonstrated to be effective in our program, will continue. Our interventions, including AMDP resources, will be targeted to specific human resource shortages in critical activities in our three program elements.

2.1 Managing Population Growth

Rwanda must reduce its rate of population growth, currently 3.7% per annum, to slow the rate of growth of the labor force. Efforts to employ labor, and feed, house, educate, and provide health care to the population will only become manageable if demographic pressure is drastically reduced. AID's strategy gives highest priority to this problem. Assistance will be provided to assure that Rwandans have knowledge of and access to family planning services.

Faced with the problem of a population which has nearly doubled in the past 20 years and will nearly do so again by the year 2000, the GOR created the National Population Office (ONAPO) in 1981 to formulate family planning

policy, undertake research, and coordinate delivery of services. Since then a great deal of attention has been given to the population imperative. However, Government resources are meager and uncoordinated. ONAPO functions relatively autonomously outside of the Ministry of Health (MINISAPASO), has grown perhaps too quickly, and is inefficient. Lacking budgetary support from the Government, it has depended on donors, largely AID, to meet its operating costs. MINISAPASO poorly supervises its field operations and assigns family planning low priority in its activities. The need to reduce the size of the family in Rwanda is unequivocal, and the desire of the population to do so, as described in our analysis, is clear. However, the most effective means for delivering family planning services remain to be found.

AID's objective under this program element is to provide information, education, and technology, through a range of institutions, to assure that informed decisions about family planning can be made and that family size decreases. To this end greater attention will be given to PVOs and private sector initiatives to improve service delivery. Also, an active policy dialogue will seek necessary institutional reforms, coordination, and support. Items to be placed on the policy agenda include:

* greater GOR budget support for ONAPO, minimally sufficient to cover operating costs;

* greater collaboration between ONAPO and MINISAPASO for the delivery of services;

* relaxation of the requirements for eligibility to assure access to family planning services by single women and married women without children; and

* greater participation of the private sector to improve service delivery.

If progress is made in the reform of these policies, "add-on" assistance levels to a new family planning activity will be considered. For example, performance disbursements could be allowed based on progress in enacting specific policy and institutional reforms.

Policy dialogue also will call attention to major determinants of desired family size and fertility rates, notably the education and employment of women. Additional assistance, for example, might be used to leverage GOR support for functional literacy programs, day-care centers/activities, or vocational and other educational activities. Therefore, we will study further the possibility of reaching family planning goals through greater support to women's education and employment.

The institutional efficiency of ONAPO could be improved with technical and management assistance, helping the agency to function better as national coordinator for family planning. Policy reform also is appropriate. Without these changes, neither ONAPO nor MINISAPASO will be capable of meeting the demand for family planning services, and future AID assistance will be jeopardized. Therefore, in the design of any family planning activity, the role of the private sector and NGOs will be explored and given greater emphas s as an alternative and potentially more effective means of service delivery.

Future AID project assistance in support of family planning will entail the following activities.

* Continuing in-service training of health workers and medical professionals.

* Increasing the knowledge of the public of modern family planning methods.

* Sponsoring research for improving operations, evaluating alternative means of service delivery, and identifying effective methods of social marketing.

* Possibly promoting greater use of condoms in light of the President's recent call for greater public education on AIDS. Because of the potential impact of AIDS on Rwandan demographic trends, the mission also will stand ready to provide support for AIDS research or education programs if requested, appropriate, and feasible.

There are three benchmarks which will measure performance in progressing toward this strategy objective:

* an increase in the percentage of GOR resources allocated to family planning activities;

* greater private sector participation in service delivery; and

* expanded contraceptive user rates.

2.2 Generating Rural Income Growth

Our analysis reveals that the major constraint to broad-based economic growth is the low income levels of rural households. The analysis also demonstrates that to increase rural incomes:

* full-time, off-farm employment opportunities in rural areas must be expanded; and

* agricultural productivity must be increased.

The Mission's strategy is to promote productive off-farm employment through private enterprise and a more market-oriented, research-based agriculture. Expanding income-earning opportunities are meant to overcome and reverse cycles of malnutrition, disease, and lack of education and provide for better meeting basic human needs in rural areas. Low levels of income in Rwanda are not the consequence of economic disarray, such as financial instability, structural weakness, or excessive debt problems. Nor is hunger widespread in the country. Rather, it is high levels of unemployment and underemployment which are limiting opportunities for rural households to increase their well-being. Poor policies, institutional

inefficiency, and misdirected investments have helped to cause low employment growth and must be rectified if the productivity of workers is to be increased and incomes raised.

2.2.1 Employment Generation

This program element has second priority because the interventions undertaken to induce policy and institutional reform will, if successful, have the greatest impact on economic growth in the short run. Effective policy reforms which promote productive off-farm employment will have a significant impact on the incentive climate for agriculture as well; developments on and off the farm are essentially two strands of a single thread. For example, an exchange rate adjustment will not only favor labor over capital but will enable agro-business to pay higher prices to farmers This will encourage farmers to furnish the regular supply of raw materials needed for efficient food processing operations. The increased productivity and profitability of agriculture will increase the demand for goods and services, and thereby stimulate employment off the farm. Increased employment, especially among the rural poor, will raise the effective demand for food and thus improve agricultural incentives and the profitability of farming.

Greater use of domestic resources -- especially labor -- in processing and manufacturing is a key component of this strategy element, and will require, in addition to the aforementioned reforms, the institution of a more uniform tariff structure and a more even distribution of taxes. Fewer public sector investments in loss-making operations, such as parastatals, will free resources for investment in activities to improve human capability, such as agricultural research and education, and thus render the labor force more productive.

The Mission's objective under this program element is to upgrade the institutional capacity of key ministries and financial institutions whose activities most directly affect the investment climate in Rwanda. Through the provision of technical assistance, institutions will be better able to:

* perform policy analysis and formulate policy with respect to employment and other problems, to be identified through studies, affecting the business incentive climate; and

* implement effectively appropriate policies and programs.

The technical assistance component of this effort will follow the high-level advisor/trainer concept which the Mission has instituted under the AEPRP for Rwanda. This entails advising and training Rwandans to enable them better to identify problem areas, design studies, perform analyses, and formulate policy on an informed basis. A fundamental objective of this approach is to help Rwandans to recognize and assume ownership of assistance activities. To date, its most demonstrable impact has been the improved environment in which policy is discussed and assessed. In the process of policy reform which we see developing, Rwandan economists and others are learning how to identify a potentially key policy reform and present an analysis which supports it. Performance in doing this will be a principal indicator of progress in meeting strategy objectives. Actual policy reform is needed also, but at the moment it is not easily leveraged because Rwanda has little experience with policy-conditioned programs, is not facing a short-run economic or financial crisis, and has no immediate balance of payments problems. Nonetheless the Government is receptive to assistance in learning how to understand better the behavior of the economy.

Where this process is slow in bringing about change, limitations on institutional efficiency and individual capability are apparent. This is where the Mission's program will have its greatest impact in the near term.

For example, the BRD's recent proposal under AEPRP/R to establish a more flexible term credit fund for the promotion of rural enterprises is a convincing indicator of GOR interest in stimulating private sector investment in the agricultural economy. The weakness of the proposal is on the implementation side: the BRD does not yet have the capacity to undertake a new program which requires additional processing of loan proposals and monitoring of loans. In yet other instances, Rwandan economists have been unable to argue convincingly in favor of policy change but have been eager to meet with AID economists to improve their information base and hone their analytical skills. The Mission is aware of the lessons learned from the donor experience with policy reform (Haggblade, Liedholm, and Mead 1986); we will therefore continue to use advisors to work with and train Rwandans.

AID currently provides technical assistance and funds under the AEPRP to further its objectives in policy and institutional reform. Resources from the new Agricultural Surveys and Policy Analysis project also will be used to provide support to the MINAGRI, the MINIFINECO, and the Ministry of Plan (MINIPLAN) as part of this effort. Additional activities during the planning period will be conditional upon performance under the current program, as discussed in section III.3.1. Our development assistance to rural enterprises -- business advisory services and skills training -- has been provided through U.S. PVOs; NGOs, particularly local ones, will be considered to help plan and implement new activities promoting enterprise development. Other activities might include a Second Cities Development Program to stimulate the growth of rural trade centers and/or a second AEPRP or other program assistance.

The activities the Mission will pursue under this program element are focused on five institutions, although the first three discussed below are the priorities.

With the MINIFINECO:

* developing a consistent reform program by creating a policy agenda which promotes a more liberal trade and payments regime, a more rational allocation of resources, and the economic well being of the rural majority;

* implementing effectively a study program consistent with the policy agenda;

* establishing a process by which policy changes are based on research results and recommendations; and

* establishing procedures by which policy change can be effectively implemented and monitored.

With the MINIPLAN:

* coordinating a policy/study agenda with MINIFINECO; and

* strengthening data collection and survey activities to support the policy/study agenda.

With the BRD:

* developing a more flexible term lending program for rural enterprises;

* coordinating privatization efforts with the Ministry of Industry and Mines (MINIMART) and the MINAGRI;

* improving the process of reviewing and approving loan proposals;

* providing loans for Communal enterprises, including private post-primary schools, and health and family planning services; and

* reducing the costs of loan administration by working more effectively with NGOs and the Special Guarantee Fund in monitoring clients.

Additional activity with MINIMART and the Special Guarantee Fund (SGF) supports this program element.

With MINIMART:

* improving regulatory and review functions to enable new enterprises to be more rapidly registered;

* supporting effectively SMEs in technology adoption;

* promulgating a privatization policy which defines a clear strategy and establishes clear procedures; and

* strengthening and coordinating institutions which provide support services to SMEs, such as the Chamber of Commerce.

With the SGF:

* attaining legal status; and

* continuing to improve procedures for review and approval of guarantees to SMEs, Communes, and other clients.

Depending on progress on the above policy and institutional reforms, an increase in direct business support activities, such as technical and managerial skills training, identification of technologies, and portfolio and project development assistance to rural banks, cooperatives, and entrepreneurs may be considered.

The principal benchmarks for assessing progress toward this strategy objective are:

* an increase in the number of new, labor-intensive enterprises; and

* improved GOR capability to identify, propose, and undertake reforms.

2.2.2 Intensifying Agricultural Production

This program element complements the off-farm employment element. Together they are designed to help raise low levels of income in rural households. Agricultural production must double in the next 20 years to meet the food needs of both the overall population and the non-agricultural population; the latter may increase fourfold by the turn of the century.

Our analysis shows that agriculture will need to be based on research, and more commercial in orientation for sustained equitable growth to occur. The Mission's program of assistance will be limited to a few key areas in which AID has a comparative advantage. Specifically, we will help increase food production and realize a more productive, low-cost agriculture so that food prices will be kept relatively low.

The objective of our assistance under this program element is to strengthen the capacity of selected institutions to develop and transfer technology, including biological as well as non-biological interventions needed for a more productive and profitable agriculture.

The core of our program will be assistance to ISAR and the Agricultural Statistics and Surveys Unit (SESA) of MINAGRI, in the areas of technology development and policy analysis, respectively. A key activity fundamental to both these interventions is the diagnostic survey. A basic tool of farming systems research, rapid survey techniques will be employed by SESA and ISAR to focus on issues of immediate importance to policy makers and scientists. It will necessarily entail reaching farmers to solicit their perceptions of the constraints they face and in this fashion inform both the research and policy-formulation processes. In Rwanda both the Minister of Agriculture and the Director of Agricultural Research are supportive of the diagnostic survey as a tool linking micro-level realities with macro-economic policy and commodity research planning.

The Mission's program of assistance in support of this strategy element will include activities to further research on improved agricultural technologies, and, in conjunction with the previous program element, policy and institutional reform to increase private sector involvement in input supply and output marketing. Assistance will be furnished to ISAR to attain

the research objective and to SESA for improving data collection and analysis to inform the policy formulation process.

Support to agricultural research will focus on food crop production, with key commodities to be selected in collaboration with ISAR, and on strengthening ISAR's applied research activities. This support will:

* assist in the development of improved technologies to increase agricultural productivity;

* improve the research capability of scientists through on-the-job and overseas training;

* improve coordination between ISAR and the National University (UNR) to make training in agriculture more relevant to the needs of the country; and

* improve linkages with the IARCs to stimulate more focused research.

Additional assistance to the Ministry of Agriculture will be through SESA to develop its capacity to undertake relevant policy studies and analysis. Recording, processing, and analyzing agricultural production data will be critical to forecasting, monitoring, and measuring agricultural development and the impact of policy upon the rural economy. Technical assistance will be furnished to improve the MINAGRI's capability in this area and to identify key issues in the agricultural economy for further study. A technical working group composed of representatives from MINAGRI, MINIFINECO, and MINIPLAN will be formed to coordinate research agendas.

Our policy dialogue with MINAGRI will include:

* operationalizing the strategy of regional specialization of production through market forces, particularly by strengthening ISAR's and SESA's capacities to establish priorities for research;

* promoting food security objectives through inter-regional trade and the export of surpluses;

* privatizing commercial components of integrated rural development projects, seed multiplication services, OPROVIA (the national food marketing organization), fish stations, forest nurseries, and regies (former projects functioning relatively autonomously but within government); and

* improving the technical content of extension themes.

The principle which guides the Mission's effort to stimulate a more commercial agriculture is based on the free operation of market forces. Private sector involvement is crucial to seeing this come about. The policy reforms cited as fundamental to generating employment are also the same ones which will improve the efficiency of input supply, and output marketing and processing by improving the incentives for private investment.

As for the other program elements, progress in policy changes and institutional performance may warrant additional activities.

* Natural resource management, including agroforestry, soil conservation, and marais development, if the current RRAM and WMS II study and planning programs reveal that technical interventions are feasible.

* Post-harvest and food technology, if FSM II research results elucidate effective economic and technical interventions.

* The Faculty of Agronomy, if, under its reform program, the output of mid-level professionals is increased, refresher courses for extension staff are provided, research programs are linked with ISAR's research agenda and SESA's diagnostic surveys, and curricula are revised to make training more relevant to the needs of Rwandan agriculture.

* Agricultural research through additional assistance to ISAR to strengthen the research-extension liaison function for improving the testing and transfer of technology.

The benchmarks for this program element are:

* greater inter-regional trade and export;

* the development, transfer, and adoption of new agricultural technologies; and

* greater private sector participation in input supply and output marketing.

3. PROGRAM PRIORITIES, MANAGEMENT, AND RESOURCE REQUIREMENTS

3.1 Program Priorities

The Mission's proposed program to address two basic problems - population growth and inadequate rural income, is summarized in Table 8. The table shows three program elements, broad categories of assistance activities for each element, and three OYB options: low ($2 m/yr), medium ($4-6 m/yr) and high ($7 m or more/yr). Table 9 (A,B,C) presents different program scenarios under the high, medium, and low options. The low and medium options include essentially the same activities, but funding levels in the low option are reduced. The high option contains program assistance and/or additional project activities. The Mission is already at a high program level in the off-farm employment element.

There is one common activity under each program element: policy and institutional reform. Our analysis concludes that the performance of the program will depend on the success of such reforms. Therefore, we recommend a strategy in which program levels will be determined by progress in this key area, as discussed in Section III.1. A core program with activities in all three elements is proposed. This core is mostly in place, lacking only a new start in population. Funding required for the current mortgage of core activities and the new start in population can be supported at the medium program level. The high option is recommended under conditions of satisfactory performance in policy and institutional reform. The low program option demonstrates how the mission would manage a significant reduction in resources under conditions of poor performance or other problems. However, we do not recommend the low option because Rwanda's performance to date is good and our policy dialogue promises new opportunities.

Managing the demographic problem is the program element with highest priority and therefore is included in all three options.

The two program elements which address the problem of low rural income -- agricultural productivity and off-farm employment -- also are retained under all options; however, because the key element in the income equation is job availability, in particular the pressure of unemployed school leavers seeking work off the farm, our attention would probably focus on creating off-farm employment in the low program option. Under such an option, a decision on how to reduce the current program would have to consider carefully the interests and priorities of other donors in employment generation, as well as our own comparative advantage in stimulating a more modern and commercial agriculture through research, policy dialogue, and private sector activity. While stimulating employment growth should have has greater priority under a low option, technology development for agriculture probably would be retained at a reduced level.

3.2 Program Management Assessment

The AID program grew in the 1980's at a rate beyond the Mission's ability to manage it effectively (Table 10: Current Management Units). While USDH staff expanded during this period, still routine implementation tasks preoccupy Mission personnel and leave insufficient time for site visits, contact with Rwandans, and policy dialogue. This situation will be exacerbated by DH staff reduction. Thus more must be done to further develop program content (e.g. an in-house policy analysis group) and facilitate implementation (e.g. hiring assistant project officers) through the use of contractors.

As a result of employment generation activities added to the program since the last mission CDSS, the number of institutions with which we are

working has doubled. Significant increases in management units after the leveling off in FYs 87 and 88, therefore, cannot be contemplated (Table 11: Core Program Units). The pipeline figure also indicates that we must concentrate on managing the current portfolio.

USDH staff will decline from ten to seven as we combine the HPNO and HPNO IDI positions in March, and lose the JCC in August and the PDO trainee in January 1988. We will seek a JCC replacement, possibly a social scientist to join the Policy Analysis Group. We also need to consider extending the PDO trainee position for at least one year to close out several projects and manage the natural resource planning activity during its feasibility phase. If all these losses are to be absorbed our ability to manage high program levels will certainly be reduced and we may need to reduce our core program.

The Rwandans working at AID in professional positions have good basic training, high motivation, and are capable. Because they lack experience, however, only limited responsibility has been delegated to them. Greater use of host country nationals, such as the current management and assistant agriculture officers, will enable us to understand better the local environment, come to terms with difficult issues, and increase program effectiveness. While additional program assistance cannot be absorbed in the short run, we are gaining experience in negotiating performance benchmarks and managing our policy agenda. The Mission staff capability to explore new programming tools and resources, however, remains limited.

3.3 Financial and Human Resources

3.3.1 Assumptions

The Mission has assumed the following in planning the program scenarios.

* It is unlikely that the OYB for Rwanda will increase significantly over the current $6.0 million level.

* The mortgage should be kept lower for Rwanda than for countries with strategic interests.

* Food for Progress may be an appropriate resource, particularly for agriculture program assistance; however, guidance on this is not likely to be clear for some time.

* It is unlikely that ESF funds will be available for Rwanda with the exception of the Africa Economic Policy Reform Program.

3.3.2 Resource Requirements*

To maintain the core program, a new population activity is needed in FY 1988 and will receive priority funding from the OYB in subsequent years. The PRIME program will be extended until late in the planning period; it provides most of the technical assistance resources for the institutional and policy reforms needed to stimulate employment growth. Complementary technical assistance is available under the Agriculture Surveys and Policy Analysis (ASPA) project, but if this resource is insufficient additional DA will be needed to amend PRIME to provide additional services. Projects are already in place until late in the planning period (FY 1991) to support agricultural data collection and analysis (ASPA) and technology development (FSIP), although the latter may also require additional resources.

Beyond this core program, new starts could be funded for expanded enterprise development, natural resource management, selected assistance to faculties at UNR, and/or a second cities program. Additional program assistance in agriculture and/or the non-agricultural sector also should be considered based on an evaluation of AEPRP/R and our ability to manage other

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* In discussing the planning period and resource requirements, the Mission has used a five year time horizon. It is recognized that this is technically incorrect; however, it may be more realistic.

non-project assistance. All these non-core program activities are part of a high option scenario and would be entertained only if merited by overall performance in each program element.

The core program can be totally funded by DA at approximately $20 to $25 million - or about $4-5 million per year. At a high program level an additional $10-15 in DA, AEPRP, and/or food resources would be required. This strategy allows funding of individual program elements at different levels based on performance. High option funding levels can be approved in two ways: allowing additional new starts or authorizing greater life-of-activity amounts. In the latter case we would, for example, design a new family planning activity with a minimum "project" package, including training and technical assistance, and negotiate and authorize an additional component to allow performance-based disbursements as benchmarks are achieved.

3.3.3 Mix of Resources

A $30-40 million high program level could be totally financed by development assistance at current OYB levels of $6 million, with gradual increases to $7 or $8 million per year. The population activity will be funded entirely by DA as this is the highest priority and will have first call on these resources. The core agricultural element will be funded exclusively by DA at the low and medium program levels; however, if an appropriate policy reform program is designed the Mission would examine the possibility of using PL480 resources. The off-farm employment element is currently funded by both ESF and DA. If a high option is maintained for this element, additional DA resources will likely be used to finance a new enterprise development project or additional advisory services for AEPRP/R. Future program assistance for this element will be considered late in the planning period. Funding sources for such a program cannot be identified at this time; however, if AEPRP is not

available the program could be funded with DA under a high program level scenario.

With respect to regular Title II PL480 programs, the Catholic Relief Service (CRS) is restructuring its program to increase its development impact. It will reduce food distribution, targeting better its nutrition component. The Mission will further examine the ADRA (Adventist Development and Relief Agency) Food for Work program, particularly with respect to the disincentive effects of rice as the commodity of choice. To the extent that these "food" programs address the problem of inadequate income growth in rural areas, AID will, as feasible, assist in obtaining appropriate PL480 or possibly other resources. If these programs do not address the problem of low income growth, they will be phased out.

The mission will make selective use of regional or central projects. The Pond Dynamics CRSP, the MSU/HIID Employment and Enterprise Policy Analysis, and the MSU Food Security cooperative agreements have served the Mission well and directly support program activities. Greater use will be made also of the cooperative agreement with the National Association of American Schools of Public Administration, particularly if it can assist in fostering institutional reform. AMDP is a valuable resource and will be rigorously sought.

Peace Corps plans to increase the number of volunteers from a current 4 to 10 or more with the arrival of a country representative in April 1987. AID will use projects or local currency generations, if available, to support volunteers when the government requests them. PCVs can serve a useful role in applied research activities and in working with rural enterprises.

While there will be no additional local currency resources in the near future, AID and the GOR have jointly programmed both the 1984 emergency food

aid and the AEPRP local currency generations. This was a good experience and elicited additional policy dialogue and reform. We will continue to use local currency to support the overall program objectives. AID will endeavor to negotiate a trust fund under any future program assistance package.

The local staff in the controller's office is currently being expanded. Assistant project officers and administrative assistants are needed in our technical, program, and project offices. Increasing HCN staff is the most practical and cost effective way to improve our management capacity. We will seek the needed flexibility and approvals, where applicable, for the establishment of these positions. We recognize that making greater use of host country nationals is consistent with Bureau policy and we intend to implement this policy vigorously. To do so we will need increases in operating expenses.

3.4 Conclusions and Recommendations for Program Management and Resources

The core program can be maintained with a major new start in population and possibly amendments to increase funding for a few existing activities. Under a high program scenario beginning in FY 1988 the Mission can fund one or two new starts per year of approximately $4 to $7.0 million each. If the Mission justifies more than one start in any fiscal year it will also reexamine its managerial capability. The low option is recommended only if there are serious political or performance problems. Should this occur during the planning period there will be no more than two or three new starts with low life-of-project amounts. We would consider deobligations in program elements where performance is less satisfactory.

Until recently we have had difficulty in recruiting top quality advisors for Rwanda. The problem has abated somewhat, but the fact remains that Rwanda is a hardship post with poor health conditions, inadequate medical

care, no English language school facilities, and limited social and cultural activities. In addition, all long-term expatriate positions must be reviewed in the context of the policy to limit official American presence overseas. Therefore, to the extent possible, long-term senior advisors will be shared among projects and ministries; short-term advisors who know Rwanda and are willing to return on repeated consultancies will be used regularly; and we will encourage greater use of qualified Rwandan and African professionals.

In planning each new activity the Mission will evaluate the alternative of using PVOs and grant mechanisms if there are institutions available with proven track records in Rwanda.

We will more carefully negotiate recurrent cost financing by limiting our initial support, setting time tables for phasing it out, and specifying amounts of government contributions in agreements and implementation documents.

The Mission will develop and execute a plan for hiring and training Rwandan professionals. This will require a substantial investment of time and money for training. Simultaneously all USDH SPARs will be reviewed and revised to make the most efficient use of this resource.

TABLE 1 - RWANDAN POPULATION PROJECTIONS

Year	Population(m)	Index	Density/km2	Ha/cap*
1985	6.12	103.7	232.1	0.424
1990	7.34	124.4	278.3	0.356
1995	8.80	149.1	333.7	0.296
2000	10.55	178.8	400.0	0.248
2005	12.65	214.4	479.7	0.208
2010	15.17	257.1	575.3	0.172
2015	18.19	308.3	689.9	0.144
2020	21.81	369.7	827.3	0.120

NOTE: Index used is based on 1984 population. Assumes population growth of 3.7% annually per IBRD estimates. Figures based on total land area of 26,364 km2. Text uses arable land as base for computations.

SOURCE: IBRD, Report on Proposed Development Credit for Fourth Rwandese Development Bank (BRD), Project.

*Hectares/capita

TABLE 2 - PERCENTAGES OF POPULATION AND MAJOR CROP PRODUCTION BY AGRICULTURAL REGION IN RWANDA (1984)

Regions	% Pop.	Bananas	Beans	Peas	Peanuts	Soy	Sorghum
Imbo	0.8	1.7	1.9	0.0	5.3	0.1	0.3
Impara	3.9	5.3	3.3	0.5	2.2	3.5	0.5
Lake Kivu Shores	6.6	5.8	4.2	1.2	0.4	27.5	1.5
Volcanic	6.4	3.3	3.9	7.8	0.0	1.3	3.6
Zaire-Nile Crest	13.8	4.5	8.3	29.2	0.0	7.5	4.7
Buberuka Hi'lnds	8.9	4.1	7.4	21.0	0.0	0.1	7.9
Central Plateau	23.4	19.9	22.5	15.3	4.8	37.1	15.8
Granite Ridge	10.6	11.4	11.5	7.3	13.8	7.1	10.9
Mayaga	5.0	5.9	6.7	1.0	15.6	6.2	11.6
Bugesera	3.2	4.9	3.4	1.0	7.3	7.6	6.9
Eastern Plateau	14.4	26.5	22.3	12.3	39.3	0.9	23.4
Eastern Savanna	3.0	6.6	4.9	3.4	11.1	1.1	12.8

Regions	% Pop.	Corn	Wheat	Sweet Potatoes	Pota-toes	Manioc	Cof-fee
Imbo	0.8	1.7	0.0	0.2	0.3	3.2	6.0
Impara	3.9	4.0	0.0	1.9	1.0	4.5	12.8
Lake Kivu Shores	6.6	2.4	0.0	0.0	4.6	4.9	14.5
Volcanic	6.4	22.1	35.7	1.0	54.4	0.0	0.1
Zaire-Nile Crest	13.8	39.3	15.4	18.0	26.7	6.4	5.9
Buberuka Hi'lnds	8.9	8.6	48.2	14.4	4.0	7.4	1.5
Central Plateau	23.4	8.5	0.2	29.3	2.5	23.3	24.6
Granite Ridge	10.6	2.0	0.0	11.3	2.7	17.3	9.3
Mayaga	5.0	1.7	0.0	4.4	1.8	9.7	4.1
Bugesera	3.2	1.2	0.0	2.4	0.7	8.1	0.7
Eastern Plateau	14.4	5.7	0.0	10.4	3.9	16.1	19.6
Eastern Savanna	3.0	2.8	0.0	1.9	1.8	5.1	0.9

Source: Agricultural Statistics and Survey Unit, 1985

TABLE 3: PERCENTAGE CONTRIBUTION TO GDP (1982) BY SECTOR AND RATE OF GROWTH

Sector	% of GDP	% annual growth 1977-1982
Agriculture	47	4.8
Industry	17	9.0
Mining	1	-6.8
Construction and Public Works	5	8.4
Services	30	4.5
(of which: Government)	(30%)	(55%)
	100	5.3

SOURCE: IBRD, Rwanda Recent Economic Developments and Current Policy Issues

TABLE 4: GOVERNMENT OF RWANDA BUDGET ALLOCATIONS (000,000FRw)

MINISTRY	1983	%	1984	%	1985	%	1986	%	1987	%
Finance	2,083	13%	2,317	13%	2,745	15%	5,424	24%	5,745	24%
Primary/Secondary Education	3,910	24%	4,253	24%	4,315	24%	4,769	21%	4,909	21%
Defense	2,693	16%	2,552	15%	2,741	15%	3,011	13%	2,868	12%
Public Works & Energy	1,335	8%	1,204	7%	1,189	7%	1,543	7%	1,607	7%
Health & Social Affairs	862	5%	1,060	6%	1,228	7%	1,325	6%	1,380	6%
Presidency	745	5%	992	6%	941	5%	1,104	5%	1,296	5%
Foreign Affairs & Cooperation	1,141	7%	1,174	7%	861	5%	1,124	5%	1,140	5%
Agri., Livestock & Forestry	822	5%	727	4%	841	5%	1,005	4%	1,039	4%
Justice	749	5%	955	5%	1,026	6%	1,007	4%	1,020	4%
Higher Education & Research	581	4%	635	4%	702	4%	759	3%	817	3%
Transport & Communications	373	2%	441	3%	424	2%	457	2%	459	2%
Interior & Communal Development	428	3%	413	2%	383	2%	412	2%	434	2%
Youth & Cooperatives	383	2%	217	1%	213	1%	250	1%	322	1%
Mines, Industry & Artisant	0	0%	135	1%	152	1%	173	1%	266	1%
National Development Council	95	1%	115	1%	119	1%	130	1%	135	1%
Plan	89	1%	95	1%	110	1%	124	1%	129	1%
Employment & Training	72	0%	69	0%	92	1%	100	0%	116	0%
Institutional Relations	0	0%	16	0%	10	0%	18	0%	16	0%
TOTAL	16,363		17,369		18,090		22,734		23,698	

Source: MINIFINECO

TABLE 5: GOR BUDGET EXPENDITURES BY CATEGORY (000,000 FRw)

	1983	%	1984	%	1985	%
Personnel	8,010	49%	8,657	50%	8,902	49%
Public Debt Service	1,229	7%	2,413	14%	2,383	13%
Parastals & Subsidies	1,389	8%	1,636	9%	1,589	9%
Food Products	661	4%	724	4%	914	5%
Vehicle Operations	761	5%	851	5%	766	4%
Technical Material	1,014	6%	605	3%	716	4%
Travel	593	4%	446	3%	499	3%
Internat Scholarships	306	2%	334	2%	428	2%
Participation Internat Organs	48	0%	271	2%	302	2%
Diplomatic Missions	313	2%	316	2%	297	2%
Contributions to Internat Organs	330	2%	347	2%	293	2%
Office Materials	271	2%	161	1%	118	1%
Equipment	197	1%	184	1%	97	1%
Miscellaneous	1,274	8%	404	2%	816	5%
TOTAL	16,396	100%	17,349	100%	18,120	100%

Source: MINIFINECO

TABLE 6: MAJOR DONOR INVESTMENT IN RWANDA ($000's)

COUNTRY	1984 TECH	1984 CAPT	1984 TOTAL	1984 PERCENT	1985 TECH	1985 CAPT	1985 TOTAL	1985 PERCENT
Germany	456	7,300	7,756	5%	5,300	21,609	26,909	15%
World Bank	0	32,800	32,800	19%	0	26,223	26,223	15%
Belgium	20,795	0	20,795	12%	20,088	0	20,088	11%
UNDP & Agencies	7,609	5,526	13,135	8%	9,391	9,982	19,373	11%
France	4,553	6,877	11,430	7%	4,435	11,872	16,307	9%
United States	15,547	644	16,191	10%	14,071	7	14,078	8%
EEC	3,693	11,544	15,237	9%	1,283	11,441	12,724	7%
NGOs	1,450	7,989	9,439	6%	1,833	7,621	9,454	5%
Swiss	5,500	862	6,362	4%	6,854	900	7,754	4%
Canada	7,845	2,479	10,324	6%	0	0	0	0%
Other Countries	6,726	5,306	12,032	7%	9,655	4,390	14,045	8%
Arab States	180	9,843	10,023	6%	264	11,386	11,650	7%
Private	0	3,084	3,084	2%	0	0	0	0%
ADF					0	5,501	5,501	3%
ADB	0	1,763	1,763	1%	0	1,439	1,439	1%
TOTAL	74,353	91,172	170,372		73,173	105,431	178,604	
Percentage	44%	54%		100%	41%	59%		100%

Source: UNDP, Rapport sur l'assistance au Developpement 1984 & 1985

TABLE 7: MAJOR DONOR PROGRAMS IN SELECTED SECTORS 1985 ($000's)

Selected Sectors	U.N. System	World Bank	EEC	Germany(1)	France	U.S.	Swiss	Belgium
General Development	1,504	860	902	800	1,165	0	148	
Natural resources	277	2,840	131	3,950	2,172	0	1,339	
Agriculture, Forests and Fisheries	2,037	10,250	4,048	1,100	1,564	5,803	2,551	
Industry & Tourism	1,335	1,150	829	900	0	4,813	611	
Transportation & Communication	1,099	8,093	3,396	13,026	3,335	0	410	
Population	224	0	0	0	0	1,658	0	
Health	1,670	2,630	110	33	5,000	221	39	
Education	1,510	400	1,695	0	2,716	201	1,143	
Employment	60	0	47	0	0	0	370	
TOTAL SELECTED PROGRAMS	9,716	26,223	11,159	19,809	15,952	12,696	6,612	20,087
PERCENTAGE OF SELECTED ASST	8%	21%	9%	16%	13%	10%	5%	16%
	122,255							

1. Capital Investment Only - Total Technical Assistance $5,300,000
NOTE: Total Belgian Assistance $20,087,477, not broken down by sector.

Source: UNDP, Rapport sur l'assistance au Developpement 1985, Kigali

TABLE 8: PROGRAM SUMMARY AND PRIORITIES

	ASSISTANCE LEVEL OPTIONS		
	LOW	**MEDIUM**	**HIGH**
	$2.0 m	**$4-6 m**	**$7 or more**
PROGRAM ELEMENTS & ACTIVITIES			
I. POPULATION			
:Policy & Institutional Reform	*	**	***
.GOR contributions			
.institutional collaboration			
.regulations for services			
.education & employ for women			
:Service Delivery/Operation Research/Social Marketing	X	X	X
II. OFF-FARM EMPLOYMENT			
:Policy & Institutional Reform	*	**	***
.exchange rate			
.trade policy			
.reduce bureaucracy for SME			
.tariff structure			
.reduced parastatal support			
:Enterprise Development	X	X	X
:Second Cities			X
III. AG PRODUCTION			
:Policy & Institutional Reform	*	**	***
.support regional trade;			
.Minagri privatization			
.natural resource planning			
.improve extension themes			
.data collect & analysis			
:Technology Development	X	X	X
:Natural Resource Mgt AND/OR			X
:Post Harvest/Food Tech AND/OR			X
:Faculty Ag/UNR			X

* Limited policy dialogue usually in the context of project and institutional reforms touching on some but not all of the sub-points.
** Active dialogue with the cooperation of project advisors; measurable institutional change with the possibility of policy reform.
*** Reform and/or performance-based program assistance utilizing leveraging and sector advisors; additional program resources will be made available.

TABLE 9e: RWANDA PROGRAM OPTIONS - HIGH FUNDING LEVEL

PROJECT NAME	PROJECT NUMBER	FY OF INITIAL OBS	FY OF FINAL OBS	PACD	PLANNED LOP (000s)	OBLIGATED TO DATE 9/86	ACCRUED EXPENDITURE 9/86	PIPELINE 9/31/86	OBS	END FY 87 MORT	OBS	END FY 88 MORT	OBS	END FY 89 MORT	OBS	END FY 90 MORT	OBS	END FY 91 MORT	OBS	END FY 92 MORT
I. Ongoing Project																				
LCS	696-0107	79	80	6/30/87	2,573	2,573	2,338	235	0	0										
Ag Education	696-0109	79	83	3/30/87	5,126	5,126	4,645	481	0	0										
Farming Systems	696-0110	84	89	9/30/91	13,000	7,700	2,353	5,347	2,900	2,400	2,400	0	0	0	0	0	0	0		
Fish Culture	696-0112	81	82	9/30/87*	2,450	2,450	1,577	873		0	0	0								
MCH/FP	696-0113	81	84	9/25/88	6,250	6,250	4,371	1,879		0	0	0								
Ag Survey & Anal	696-0115	81	83	3/30/87	3,706	3,706	2,900	806		0	0	0								
FSM II	696-0116	81	83	12/31/87	2,900	2,900	1,847	1,053		0		0								
Private Enter	696-0121	84	87	8/30/88*	4,000	2,500	569	1,931	1,500	0	0	0	0	0						
Coop Trng	696-0122*	85	85	7/31/88	1,500	1,500	176	1,324		0	0	0								
Ag Sur & Pol Anal	696-0126	86	90	9/30/91	7,000	1,500	0	1,500	1,600	3,900	1,600	2,300	2,300	0	0	0	0	0		
PRIME	696-0127	85	85	6/30/89*	12,000	12,000	4,030	7,970		0	0	0	0	0	0	0				
																			0	
II. PROPOSED PROJECTS																				
FP II	696-0128	88	92	12/92	7,000	0					2,000	5,000	1,500	3,500	2,000	1,500	1,500	0	0	0
Ag Research	696-0110A	84	93	12/94	3,000	0							700	2,300	1,000	1,300	1,300	0	0	0
Enterprise Dev	696-0130	89	93	12/95	6,000	0							1,500	4,500	1,500	3,000	1,700	1,300	1,300	0
Nat Res Mgt	696-0131	90	94	12/96	5,000	0									1,500	3,500	1,500	2,000	2,000	0
Ag Sec Asst	696-0132	91	95	12/98	5,000												1,000	4,000	1,000	4,000
Non-Ag Sec Asst	696-0133	92	96	12/99	10,000	0													2,700	7,300
TOTALS					96,505	48,205	24,806	23,399	6,000	6,300	6,000	7,300	6,000	10,300	6,000	9,300	7,000	7,300	7,000	11,300
MORTGAGE AS % OF OBLIGATIONS										105%		122%		172%		155%		104%		161%

*Possible PACD Extension

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TABLE 9b: RWANDA PROGRAM OPTIONS - MEDIUM FUNDING LEVEL

PROJECT NAME	PROJECT NUMBER	FY OF INITIAL OBS	FY OF FINAL OBS	PACD	PLANNED LOP (000s)	OBLIGATED TO DATE 9/86	ACCRUED EXPENDITURE 9/86	PIPELINE 9/31/86	END FY 87 OBS	END FY 87 MORT	END FY 88 OBS	END FY 88 MORT	END FY 89 OBS	END FY 89 MORT	END FY 90 OBS	END FY 90 MORT	END FY 91 OBS	END FY 91 MORT	END FY 92 OBS	END FY 92 MORT
I. Ongoing Project																				
LCS	696-0107	79	80	6/30/87	2,573	2,573	2,338	235	0	0										
Ag Education	696-0109	79	83	3/30/87	5,126	5,126	4,645	481	0	0										
Farming Systems	696-0110	84	89	9/30/91*	13,000	7,700	2,353	5,347	2,000	3,300	1,000	2,300	1,000	1,300	1,000	300	300	0		
Fish Culture	696-0112	81	82	9/30/87*	2,450	2,450	1,577	873		0	0	0								
MCH/FP	696-0113	81	84	9/25/88	6,250	6,250	4,371	1,879		0	0	0								
Ag Survey & Anal	696-0115	81	83	3/30/87	3,706	3,706	2,900	806		0										
FSM II	696-0116	81	— 83	12/31/87	2,900	2,900	1,847	1,053		0										
Private Enter	696-0121	84	87	8/30/88*	4,000	2,500	569	1,931	500	1,000	1,000	0	0	0						
Coop Trng	696-0122	85	95	7/31/88*	1,500	1,500	176	1,324		0										
Ag Sur & Pol Anal	696-0126	86	90	9/30/91	7,000	1,500	0	1,500	1,500	4,000	1,000	3,000	1,500	1,500	1,000	500	500	0	0	0
PRIME	696-0127	85	95	6/30/89*	12,000	12,000	4,030	7,970		0	0	0	0	0						
II. PROPOSED PROJECTS																				
FP II	696-0128	88	92	12/93	5,000	0					1,000	4,000	1,000	3,000	1,000	2,000	1,000	1,000	1,000	0
Ag Research	696-0110A	84	95	12/95	2,000	0											700	1,300	1,300	0
Enterprise Dev	696-0129	89	93	12/95	5,000	0							500	4,500	1,000	4,000	1,500	2,500	1,500	1,000
Nat Res Mgt	696-0130	90	92	12/96	4,000														700	3,300
TOTALS					76,505	48,205	24,806	23,399	4,000	8,300	4,000	9,300	4,000	10,300	4,000	6,800	4,000	4,800	4,500	4,300
MORTGAGE AS % OF OBLIGATIONS										208%		233%		258%		170%		120%		96%

*Possible PACD Extension

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TABLE 9c: RWANDA PROGRAM OPTIONS - LOW FUNDING LEVEL

PROJECT NAME	PROJECT NUMBER	FY OF INITIAL OBS	FY OF FINAL OBS	PACD	PLANNED LOP (000s)	OBLIGATED TO DATE 9/86	ACCRUED EXPENDITURE 9/86	PIPELINE 9/31/86	END FY 87 OBS	END FY 87 MORT	END FY 88 OBS	END FY 88 MORT	END FY 89 OBS	END FY 89 MORT	END FY 90 OBS	END FY 90 MORT	END FY 91 OBS	END FY 91 MORT	END FY 92 OBS	END FY 92 MORT
I. Ongoing Project																				
LCS	696-0107	79	80	6/30/87	2,573	2,573	2,338	235	0	0										
Ag Education	696-0109	79	83	3/30/87	5,126	5,126	4,645	481	0	0										
Farming Systems	696-0110	84	89	9/30/91*	11,000	7,700	2,353	5,347	2,900	400	400	0	0	0	0	0	0	0	0	0
Fish Culture	696-0112	81	82	9/30/87	2,450	2,450	1,577	873		0	0	0								
MCH/FP	696-0113	81	94	9/25/88	6,250	6,250	4,371	1,879		0	0	0								
Ag Survey & Anal	696-0115	81	83	3/30/87	3,706	3,706	2,900	806		0	0	0								
FSM II	696-0116	81	83	12/31/87	2,900	2,900	1,847	1,053		0										
Private Enter	696-0121	84	87	8/30/88*	4,000	2,500	569	1,931	1,500	0	0	0	0	0						
Coop Trng	696-0122	85	85	7/31/88*	1,500	1,500	176	1,324		0	0	0								
Ag Sur & Pol Anal	696-0126	86	90	9/30/91*	5,000	1,500	0	1,500	1,600	1,900	0	1,900	1,000	900	900	0	0	0	0	0
PRIME	696-0127	85	85	6/30/89*	12,000	12,000	4,030	7,970		0	0	0	0	0	0	0	0	0		
II. PROPOSED PROJECTS																				
FP II	696-0128	88	91	12/92	5,000	0					1,600	3,400	1,000	2,400	600	1,800	1,000	800	800	0
Enterprise Dev	696-0129	91	95	12/96	4,000	0									500	3,500	1,000	3,000	1,200	2,800
TOTALS					65,505	48,205	24,806	23,399	6,000	2,300	2,000	5,300	2,000	3,300	2,000	5,300	2,000	3,800	2,000	2,800
MORTGAGE AS % OF OBLIGATIONS										38%		265%		165%		265%		190%		140%

*Possible PACD Extension

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TABLE 10: AID CURRENT MANAGEMENT UNITS

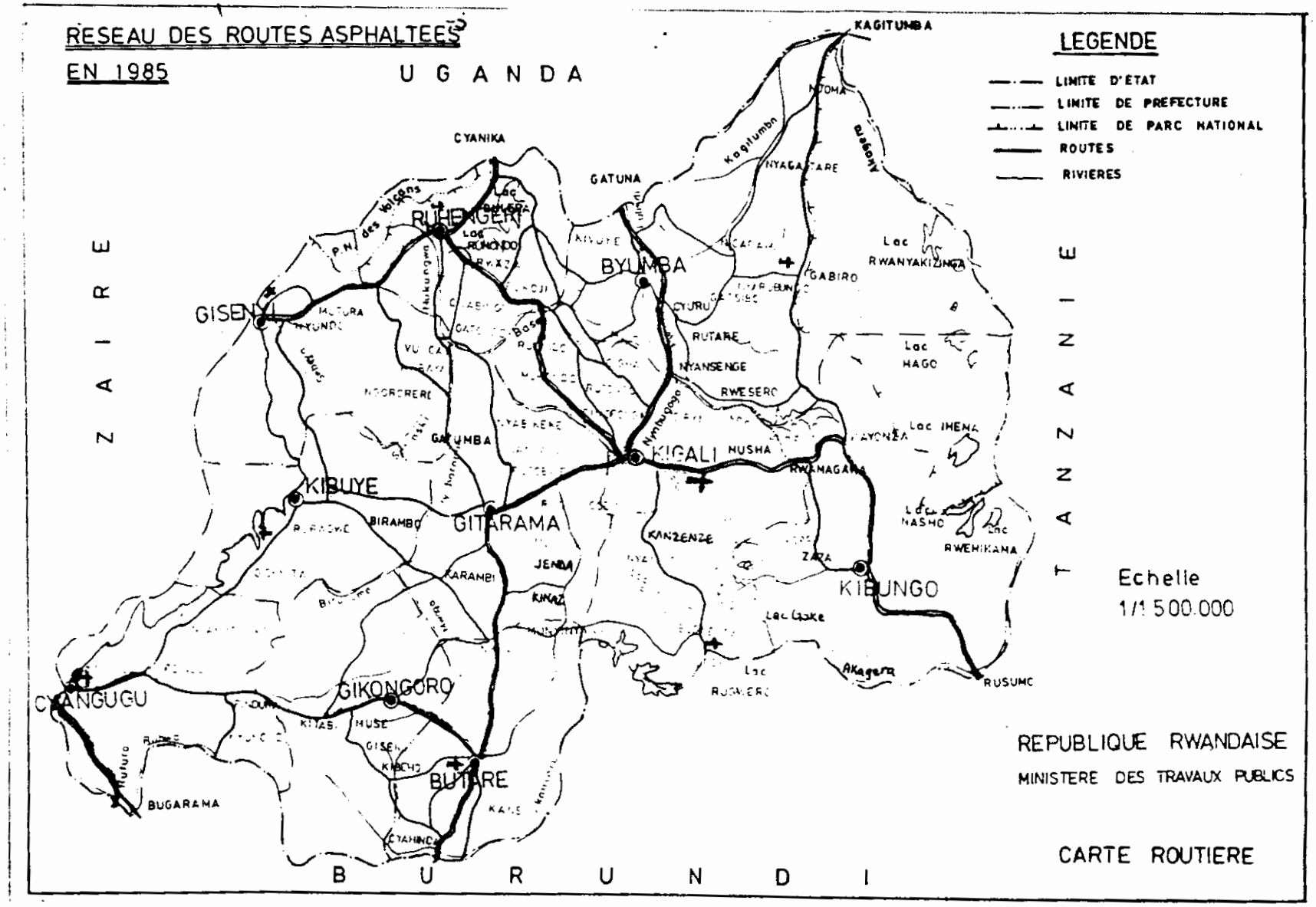
PROGRAM ELEMENT	PROJECT/PROGRAM	87	88	89	90	91	92
I. Population/Health/ Human Resources	MCH/FP	X					
	CCCD	X	X				
	Ag Ed	X					
	KBO	X	X				
	AMDP	X	?	?	?	?	?
II. Agricultural Productivity							
Policy	ASA/ASPA	X	X	X	X	X	+
Tech Dev	FSIP	X	X	X	X	X	+
	FSM/Research	X	X				
	CRSP (fish)	X	X	X			
Nat Resource Mgt	RRAM	X	X	X			
	Commun Afforest	X					
	CARE Agro-for	X	X				
	WMMS/Marais	X					
Nutrition	CRS	X	?	?	?	?	?
Production	Africare Refugee	X					
III. Employment Generation							
Policy	PRIME	X	X	X	+	+	
Mgt Serv/Skills Trng	IWACU	X	X	+			
	Technoserve	X	X	X	+		
	LCS	X	X				
Food for Work	ADRA	X	?	?	?	?	?
	Subtotal Bilateral	9	7	5	4	3	2
	Subtotal Reg/Central	9	7	3	1	1	1
	Subtotal PL480	2	2	2	2	2	2
	GRAND TOTAL	20	16	10	7	6	5

\+ Redesign or extension likely.
? Uncertain; counted in totals.

TABLE 11: CORE PROGRAM UNITS

PROGRAM ELEMENT	ILLUSTRATIVE ACTIVITY	88	89	90	91	92
I. Population						
Policy & Institutional Reform and Service Delivery	Family Planning	X	X	X	X	X
II. Employment Generation						
Policy & Institutional Reform	PRIME	X	X	*	*	?
III. Agriculture Productivity						
Policy & Institutional Reform	ASPA	X	X	X	X	*
Tech Development	Ag Research	X	X	X	X	*
GRAND TOTAL		4	4	4	4	4

* PACD extension likely.
? Uncertain
+ FSIP could be redesigned; additional research to be considered: food technology, swampland management, agro-forestry; may require additional funds; PACD will probably extend LOP to 10 years.


RESEAU DES ROUTES ASPHALTEES
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BURUNDI
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KAGITUMBA
CYANIKA
GATUNA
RUHENGERI
GISENYI
BYUMBA
KIGALI
KIBUYE
GITARAMA
GIKONGORO
CYANGUGU
BUTARE
KIBUNGO
BUGARAMA
RUSUMO
GABIRO
Lac RWANYAKIZINGA
Lac HAGO
Lac IHEMA
Lac NASHO
Lac RWEHIKANA
Lac Cyohoha
Lac Rugwero
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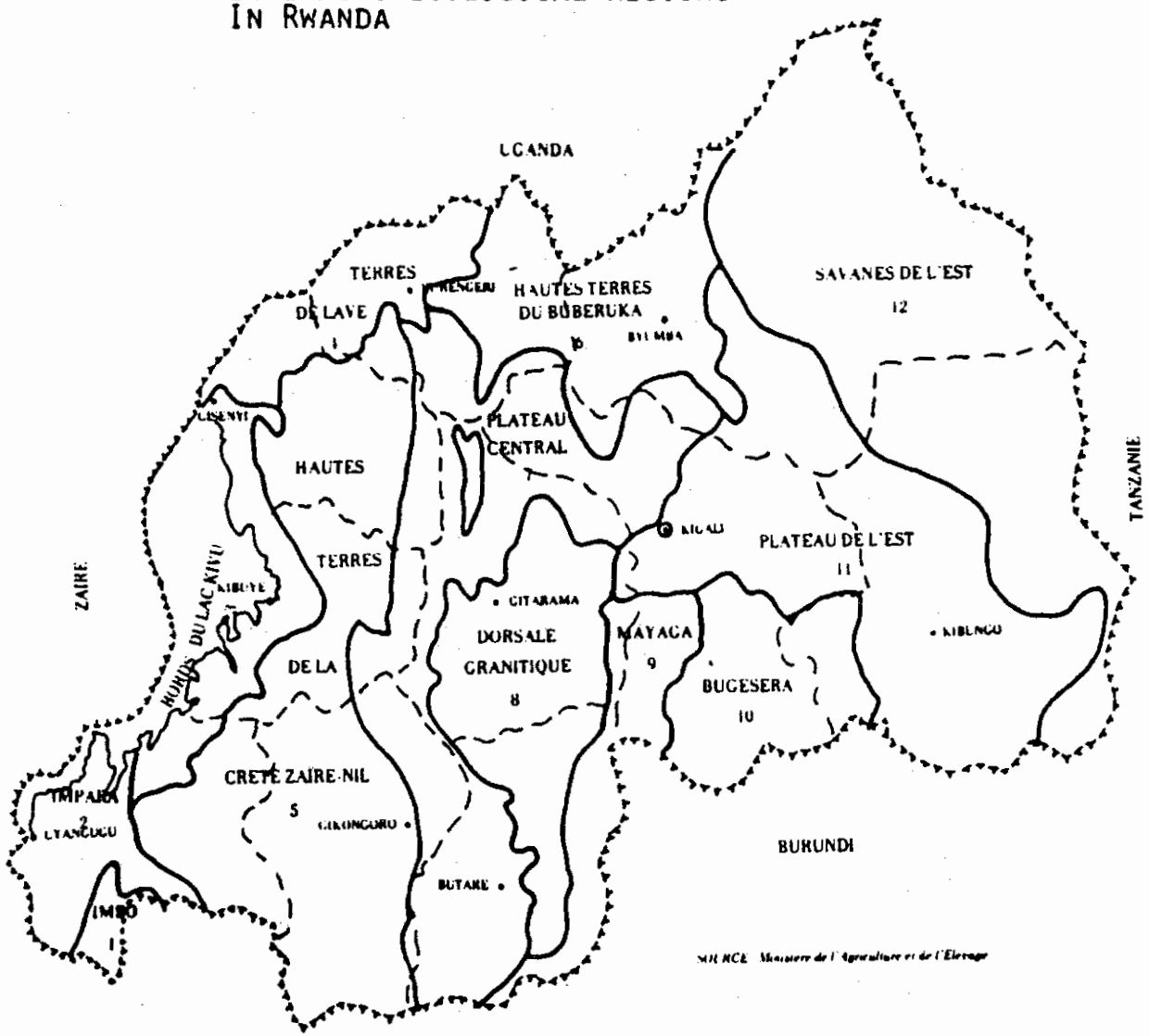
TWELVE AGRO-ECOLOGICAL REGIONS IN RWANDA



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