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SAHEL REGIONAL

COUNTRY DEVELOPMENT STRATEGY STATEMENT

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WASHINGTON, D.C. 20523

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REGIONAL DEVELOPMENT STRATEGY STATEMENT

SAHEL DEVELOPMENT PROGRAM

Agency for International Development

Washington, D.C.

December 1979
(REVISED)

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INTRODUCTION

The purpose of this document is to present AID's development strategy for the Sahel in the context of the CILSS-Club regional strategy. Planning for a comprehensive development program in the Sahel began in 1974-75 when major donors and Sahelian governments agreed that the region's ability to withstand future droughts depended on its attaining a much higher level of agricultural productivity and broad-based development generally. This involved not only programs to increase production in the short-run but larger more long-term programs to create institutions and build infrastructure that would enable Sahelian countries to continue the development process on their own. Because the countries of the region faced many common problems and because the resource requirements for the overall program were so great it was decided that a concerted donor-Sahelian effort aimed at commonly perceived regional goals would be required.

The mechanisms through which these development commitments were made are the Permanent Interstate Committee for Drought Control in the Sahel (known as CILSS) and the Club du Sahel. The CILSS is an organization of Sahelian states that was originally created to mobilize emergency assistance and help coordinate drought relief efforts. By 1977, CILSS had become the Sahelian organization primarily responsible for coordinating longer term development assistance and planning development programs at the regional level. The Club du Sahel is an organization of donors and CILSS members whose main responsibilities are to: (1) analyze the major development problems facing the Sahel, (2) formulate strategies and programs to address those problems, and (3) help mobilize external financing for the programs.

The CILSS and Club Secretariats in Ouagadougou and Paris are companion organizations which work in concert.

On the basis of an assessment of the development needs of the Sahel, the CILSS-Club determined that it would take at least 20 years and $20-30 billion in development outlays to raise the Sahelian economies to a level where they could provide for the minimal needs of their populations on a self-sustained basis. The CILSS-Club then established working groups to analyze the development problems of the Sahel on a sectoral basis, analyzed the major constraints to agricultural growth and proposed strategies for the development of rainfed agriculture, irrigated agriculture and livestock. Other sectors that were critical to achieving increased agricultural production were also studied: natural resource conservation, human resource development and transportation. The strategies that were developed were then reviewed and accepted by the Sahelian governments and the donors.

This planning and coordination process has led to the Sahel development program. Development projects are negotiated between individual donors and Sahelian governments or regional organizations. Most activities are funded by one donor and are country-specific, although many of these are paralleled by similar one-donor projects in another country. In some instances, however, large or long-term projects may be multi-donor financed. Problems that are regional in scope are addressed through regional projects; such projects can be implemented through regional organizations or through a series of bilateral sub-projects.

Within the context of the CILSS-Club planning process, AID has formulated its own regional strategy. This strategy is based on (1) the

goals and priorities of the CILSS-Club and (2) AID's analysis of development problems in the Sahel and the Agency's mandate to focus on the basic needs of the poor majority. AID's strategy like that of the CILSS-Club is framed in regional terms since a regional perspective is necessary to ensure comprehensive analysis of Sahel-wide problems and issues. AID's programs in each country are consistent with this strategy and, when taken together, make up a coordinated regional effort by the U.S. to achieve long-term broad-based development in the Sahel.

This interim AID strategy covers the initial 10-year period of AID's participation in the Sahel Development Program. It will be revised as necessary to conform it to the further analysis and policy of the CILSS-Club and of AID.

PART I

ANALYSIS OF DEVELOPMENT IN THE SAHEL

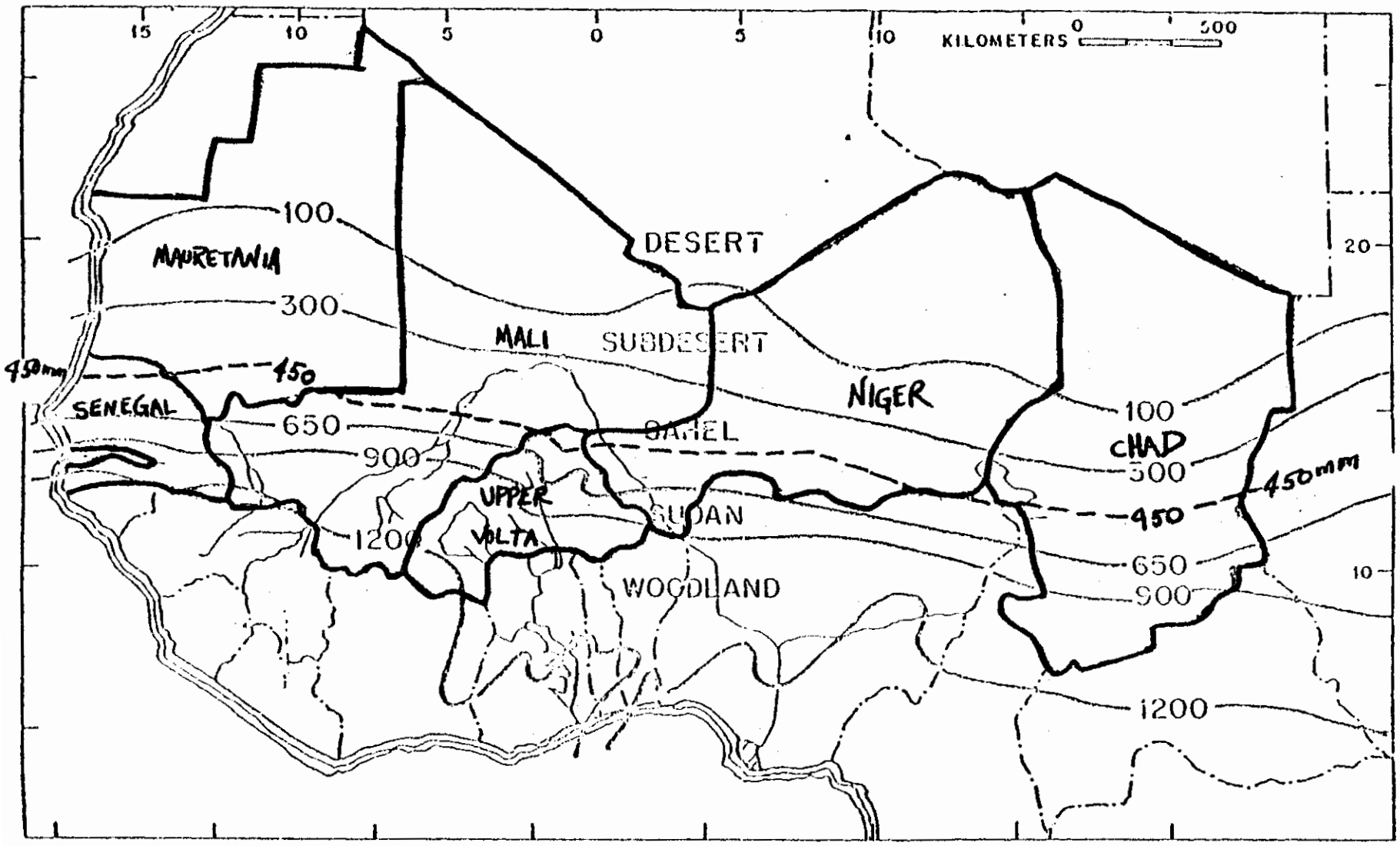
A. POVERTY IN THE SAHEL REGION

The overwhelming majority of the population of the eight Sahelian countries lives in rural areas, a regional average of 85-90 percent in 1977. The rural poor include two principal occupational groupings in the Sahel: small farmers and herders. These occupational groupings are not mutually exclusive and indeed, the massive population dislocations following the severe drought and ensuing famine during 1968-74 have tended to temporarily blur distinctions between them. However, major characteristics remain.

1. Small Farmers

Across the region approximately 65 percent of the population works in sedentary agriculture. The majority are small farmers who typically farm plots of three to five hectares on land held in usufruct by ancestors over the centuries. They raise both food crops and cash crops, depending on geographical location and the extent of government efforts to promote production.

Most of these small farmers inhabit the Savanna belt of the Sahelian countries with most agriculture being carried out under rainfed conditions in the southernmost sudan zone lying between the isohyets of 650 and 900 mm of rainfall. The Savanna belt, which also includes the sahel zone (300-650 mm of rainfall), comprises only 27 percent of the area of the Sahelian countries but contains 67 percent of their population. The three major water systems of the Sahel are located here: the Senegal and upper Niger river systems and the Lake Chad Basin, plus the smaller Gambia and Upper Volta river systems.



Climatic Zones of the Sahel-Sudan Region

The rainy season in the Savanna is irregular both in quantity and distribution. Unreliability of rainfall has enormous implications for the economic status of the small farmers and for the improvement of agriculture. Uneven rainfall distribution prohibits double-cropping and farmers plant with a rain-deficit year in mind. The desire to avoid risk can discourage investments in improved but perhaps untried crop technologies which could be wiped out by unpredicted drought.

Crop yields are low and unreliable for a number of other reasons: limited availability of agricultural inputs such as improved seeds or chemical fertilizers and little access to institutional credit to purchase inputs. Lack of access to extension services also contributes to low yields. An almost exclusive reliance on manual labor indicates a level of technology "primitive" by most world standards; many regions have yet to arrive at the stage of animal traction. Even when various factors interact to produce an abundant harvest, the small farmer still confronts a number of obstacles: inadequate storage facilities, an inadequate transportation network and a market mechanism which, in the interest of satisfying the urban consumer, keeps producer prices low.

Export crops are the chief source of cash earnings for small farmers. Most production of export crops occurs in high rainfall areas (above 800 mm), while food grain production takes place in both the semi-arid and wetter zones. Most export crops are sold to government marketing agencies but almost all food crops are kept for subsistence consumption.

The incomes of small farmers range from 10-20,000 FCFA (US $50-90)

in most of the region, often less than two-thirds the national GNP per capita. Money incomes are marginally higher for small farmers who live and work in higher rainfall areas served by regional development organizations that provide greater access to current production inputs. Small farmers who own livestock are also marginally wealthier than those who do not. Such income differences as exist between small farmers will only lead to improvements in their basic condition as measured by nutritional and health standards or literacy if these services are provided and can be afforded. Often, income differences are reflected in increased purchases of small consumer durables such as bicycles or transistor radios or of consumption items such as cloth, sugar or tea, and thus may compete with other basic human needs.

2. Herders and Nomads

Herders are the second major group of rural poor, accounting for one-fourth the regional population. These pastoral people share the Savanna belt with small farmers. They occupy, for the most part, the northernmost sahel zone of the Savanna belt during the rainy season, moving southward with their animals in pursuit of water and grass as the rains recede. Herders tend livestock, their chief asset, whose numbers in the Sahel before the drought were among the highest in Africa. Within the group of herders is a smaller number of nomads who inhabit the northern subdesert. These nomads tend mainly camels and goats, do not farm and are virtually unreachable by government services.

Most herders are engaged in transhumance involving cyclical migrations with their animals. They generally have rights to land and are thus linked to the history and tradition of a specific region. Like

small farmers, herders often raise crops on their recognized land in between periods of migration. However, their main economic activity consists of subsistence dairying and meat production in an ecological zone that has few alternative uses. Their linkages with crop producers and other sectors of the Sahelian economies occur during the dry season when they migrate into higher rainfall areas. Small farmers who own cattle entrust them during the agricultural season to traditional herders who take the animals on a long migration in search of forage. Farmers urually reciprocate by allowing herders to pasture their own animals in harvested fields. Cattle eat crop stalks and other residue and the farmers receive manure as fertilizer in return.

It is during the dry season that herders enter the money economy through sales of hides, butter, cheese, milk and meat and purchases of millet, sorghum and other cereals for cash or exchange for labor. Also, great livestock migrations normally occur during this period to satisfy coastal meat demand, though inadequacy of supply during the last drought caused coastal states to turn temporarily to other sources. Adroit risk averters, herders operate in complex relationships within a fragile environment, seeking higher incomes that will maximize their well-being. They adapt to positive changes within the existing economic and social structure over which they have some control.

During the two decades preceding the last drought livestock production increased rapidly due to above average rainfall, the development of permanent groundwater sources and better veterinary services. Herders rapidly increased the size of their herds during this period and, pushed by farmers into previously marginal crop land, took their

animals northward into yet more fragile ecological regions. As the rains failed, the land failed because herds had already exceeded rangeland carrying capacity. Once the long-term nature of rain failure became apparent, the sudden reverse migration of herders and their animals southward collided with previously settled farmers as both groups rushed to food distribution centers.

The number of cattle which perished is variously estimated at 20-50 percent of pre-drought figures in Mauritania and Niger; 20-40 percent in Mali and Chad; and 10-20 percent in Upper Volta. Accelerated slaughtering further reduced the herd population. These losses and changes in the age and sex composition of livestock herds will affect production of meat and milk for many years. Only Senegal, Chad and Niger may now have reached the 1970 level of head of goats and sheep. By 1977 only The Gambia had replenished cattle herds to pre-drought levels, while Niger had very possibly reached range carrying capacity in cattle.

3. Urban Poor

Rapid urban growth is a relatively recent phenomenon in the Sahel's major cities. Smaller cities and towns have witnessed a similar expansion. The influx to urban areas of persons displaced by the drought and famine in more recent years has exacerbated the already heavy demand on essential urban services, particularly housing and sanitation, and strained the ability of local governments to respond. Many newcomers, unable to find employment, simply exchanged the tenuous life of the countryside for the insecurity of the town.

In the last 10 years, urban areas have almost doubled in population, with rural migrants accounting for the greatest part of this increase. A very sizeable portion of the urban population consists of recent arrivals from rural areas, equipped with essentially untransferrable rural skills and possessing a world view of life more appropriate in a rural setting. More often than not, the urban poor are recently arrived rural poor.

The rapid growth of urban centers due to migration is largely attributable to low farm incomes and few opportunities in the countryside, and a quest for some sense of freedom from a largely subsistence way of life. Wage labor in the cities has not been able to absorb all the influx of migrants, but the cities maintain their attraction because incomes, even of the urban poor, come closer to average GNP per capita (e.g., in the $100-150 range) than do the incomes of small farmers, herders or nomads.

Among the urban poor are temporary migrants from rural areas who come during the dry season when demand for farm labor is nil. A significant portion of rural incomes in the Sahel derives from remittances sent home by these migrants who return to their villages for spring planting. However, as migrant urban workers find higher paying or steadier jobs, they extend their stay and ultimately become permanent residents of the cities. This increases the effective demand for social services and heightens the competition between rural and urban areas for scarce development resources.

4. <u>Indicators of Basic Human Needs Status</u>

Aggregate indicators of the current basic human needs status of

people in the Sahelian countries place the groups of rural and urban poor in a context of widely pervasive poverty.

a. Physical Quality of Life Index. The Physical Quality of Life Index (PQLI) developed by the Overseas Development Council is one indicator measuring the degree to which basic human needs are being met. While the United States and France reach the mid-nineties, only Cape Verde of the Sahelian countries surpasses 25 and the Sahelian regional PQLI averaged 18 in 1978 (Table 1).

b. Health Status. Life expectancy has gone up slightly since 1960 but the regional average still falls below 40 years (Table 1). Infant mortality rates have changed only marginally if at all during the last 15 years, from 168 per thousand to 159 per thousand*. By comparison, infant mortality for all the "low income" countries of the world dropped from 142 per thousand in 1960 to 122 in 1975. Of the Sahelian countries, only Cape Verde in the Sahel was well below both sets of averages.

Health conditions since 1960 have changed little for the majority of the Sahelian population. Only 25 percent of the population has access to potable water (Table 2). The number of doctors relative to total population has increased substantially (Table 2), but few of those doctors are in rural areas. Health clinics are being constructed in rural areas and increasing numbers of paramedical persons are being trained but, compared to need, the numbers are minimal. Most of the population does not have access to modern basic health services of any kind.

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*Health statistics, as other data, are often unreliable.

Table 1 Physical Quality of Life Index (PQLI[a])

	Life Expectancy at Age One (years)	Infant Mortality Per 1,000 Live Births	Adult (15 years+) Literacy Rate (Percent)	PQLI
Cape Verde	50	105	37	45
Chad	38	160	6	18
Gambia	40	165	10	21
Mali	38	188	5	14
Mauritania	39	187	11	18
Niger	39	200	5	14
Senegal	40	159	5-10[b]	21
Upper Volta	38	182	5-10[b]	16
Sahel Regional	38	177	7	18
All Low-Income Countries				40
All Countries in World				65
United States				95

Source: Overseas Development Council, Agenda 1979, p. 132:

The PQLI combines three indicators - infant mortality, life expectancy at age one, and literacy - into a single composite index. Each of the components is indexed on a scale of 0 (the most unfavorable performance in 1950) to 100 (the best performance expected by the end of the century). The composite index, the PQLI, is calculated by averaging the three indices (life expectancy, infant mortality, and literacy), giving equal weight to each of them.

a/ The United States and World Development: Agenda 1979 (Overseas Development Council, pp. 156-159, 1979).

b/ Weighted average by population, using literacy rates of 10 percent for Senegal and 7.5 percent for Upper Volta.

Table 2 **Nutrition and Health Status in the Sahel**

	Percent of Minimum Daily Caloric Requirement[a/]		Daily Protein Intake in Grams[b/]	Population Per Physician		Population Per Nursing Person[c/]		Percent With Access to Potable Water[d/]
	1961-65	1973-77	1976	1960	1974	1960	1974	1974
Cape Verde	-	-	-	-	-	-	-	-
Chad	98.8	76.7	60	70,000	44,370	-	6,990	26
Gambia	92.7	96.8	58	-	-	-	-	-
Mali	86.3	75.1	64	39,000	33,000	1,490	2,480	-
Mauritania	86.5	79.2	62	30,000	17,770	7,130	3,790	-
Niger	91.1	80.6	62	71,000	41,060	8,800	4,840	27
Senegal	90.4	95.0	67	35,000	15,360	4,410	1,920	-
Upper Volta	82.0	76.4	59	100,000	59,570	4,370	4,520	25
Regional	88.9	80.9	62.3	62,092[d/]	38,048[d/]	4,602[e/]	3,989[d/]	25.9[f/]
Low Income Countries	-	-	-	37,000	21,185	4,515	6,710	25
Middle Income Countries	-	-	-	3,050	2,430	2,235	1,570	52

Sources:
a/ Figures derived from FAO-established minimum daily requirements in 1978 Global Assessment Report to Congress (U.S. Department of Agriculture, 1978).
b/ Table III, World Military and Social Expenditures 1978.
c/ World Development Report, 1978 (IBRD, 1978).
d/ Weighted average (for year) for six countries.
e/ Weighted average (for year) for five countries.
f/ Weighted average (for year) for three countries.

The major debilitating diseases in the Sahel are malaria, measles and intestinal diseases with concentrations of schistosomiasis, trypanosomiasis, and onchocerciasis in some areas. Programs to control these discuses are expensive, complex and beyond the means of these countries at this time. Over the long run, immunization programs can significantly reduce the incidence of mortality from measles, polio, pertussis/diptheria, tetanus and tuberculosis.

The single most important cause of poor health in Sahelian populations, especially children, is malnutrition. However, neither caloric nor protein intake has shown any significant increase since 1960 (Table 2) and all the Sahelian countries continue to show caloric intake lower than FAO-WHO minimum daily recommendations. The situation has worsened in all countries except The Gambia and Senegal. In most years there are some parts of the Sahel that suffer from inadequate rainfall and the distribution system is not sufficiently developed to enable the timely movement of food grains from surplus to deficit areas.

Rural health services providing basic preventive and curative care reach only about 20 percent of rural Sahelians.

c. Education. Education in the Sahel falls far short of serving the needs of the rural majority. Few of the Sahelian countries have yet achieved more than an estimated 10 percent adult literacy rate; the estimated rate for all Africa is 17 percent. While Senegal has managed to enroll 23 percent of school-age students, other Sahelian countries average out at an enrollment rate closer to 10 percent against 27 percent for all Africa.

The disparity of education levels is most pronounced between

the urban poor and the rural poor. Dropout levels from rural primary school are extremely high before completion of fourth grade, the estimated educational point necessary for students to achieve the required level of literacy. The relatively few in rural areas with a primary education must generally move away to larger cities if they wish to continue with secondary education.

Progress in non-formal types of basic education is more difficult to measure. There are, for example, government programs to teach home economics, young farmer training centers, and vocational training schools, and Islamic schools offer some basic education in most Sahelian countries. Thus far these programs have been small, and not very well staffed, and have not received much support from the rural population. Area development organizations have mounted the most effective training efforts in rural areas with programs to improve farming practices, usually in relation to a particular export crop. While the intent of these programs is to increase production for export to earn needed foreign exchange, they result in increased incomes and improvement in the quality of life of the rural populations.

B. CONSTRAINTS TO IMPROVING RURAL WELFARE

Rural poverty can be attributed mainly to six significant constraints, each of which is interrelated with the others. These constraints include: (1) land, water and forest resources that are meager and/or difficult to manage; (2) a low level of technological development in agriculture and livestock production, the primary economic activities of the rural poor; (3) the relative absence of transport and agricultural production and

marketing infrastructure; (4) limited training manpower and administrative and institutional structures that inhibit the governments' abilities to carry out rural development and impede involving the groups of rural poor in managing their own development; (5) lack of social services, especially related to health; and (6) government policies that tend to favor urban residents.

1. Water, Land and Forest Resources

The low quantity, variability and seasonal nature of rainfall limits the kind of crops that can be grown and restricts farmers to a relatively short crop season. Annual rainfall patterns coupled with recurring droughts place heavy demands on labor during the relatively short cropping season, especially at harvest time. With soils that are deficient generally in phosphates and nitrogen, soil fertility has been declining as population pressures cause more land to be cultivated and as farmers shorten the fallow periods required to regenerate soil fertility. Because of water and soil problems, crop yields are low and the level of annual production of food and other agricultural products held down. This results in low real incomes and frequently food shortages for both the rural and urban poor.

Relatively abundant rainfall and the development of groundwater resources during the 1950's and 1960's led to an extension of cultivation northward into marginal areas with consequent destruction of vegetation and soil erosion. Livestock herds expanded during the same period. The breakdown of traditional systems of herd and range management led to overgrazing and the depletion of pastures and increased the vulnerability of Sahelian grazing resources to drought and desertification.

Growing populations and urbanization are increasing the demand for wood for fuel and resulting in the removal of much of the brush and tree cover especially near settled areas. The problem of overcutting of the natural forests for fuelwood has been compounded by the use of trees and shrubs as forage for livestock. If the rate of overcutting persists to the year 2000, Sahelian woodlands will supply only 20 percent of the needed fuelwood; this may be beyond the point at which natural regeneration is possible. Overcutting of the natural forests has removed also the major source of protection for the soil from wind and water erosion and from insolation. This has been accompanied by overgrazing of increased numbers of cattle on available rangeland, causing a rapid degradation of that resource as well.

Extensive river basins--the Senegal, the Niger, the Voltas, the Gambia and Lake Chad--represent considerable agricultural potential but have thus far proved difficult to exploit with capital-intensive development projects, such as the Richard-Toll project in Senegal and the Office du Niger scheme in Mali. Higher rainfall areas in the southern portions of the Sahelian countries also represent a natural resource with considerable agricultural production potential, but problems of endemic human and animal diseases have precluded settlement and rapid development of these areas.

Population densities are low in relation to total land area, but increasing human and animal numbers are putting pressure on Sahelian croplands, rangelands and woodlands. If animal and human populations continue to increase without complementary increases in productivity, overpopulation and further ecological deterioration will occur.

2. Level of Technology

The vast majority of small farmers follow "traditional" low-yielding agricultural practices designed to meet subsistence needs and minimize risks against drought. These practices consist of: gradual land clearance and stump removal; "half shifting cultivation" (villages are permanent, the fields change, with fallow periods breaking the cropping cycle); little mixed farming, though livestock may be present; multiple cropping (presence of different plants on the same field to moderate nutrient demand--e.g., millet and cowpeas); relatively little use of improved varieties, fertilizers or other off-farm inputs. The typical holding devotes two-thirds of cultivated acreage to millet and sorghum; the rest is distributed between such crops as rice, maize, cowpeas, cotton and groundnuts.

In most Sahelian countries, women, traditionally, have the major responsibility for food crop production. Men perform the heavier tasks of land clearing and preparation while women sow, cultivate and harvest grain and other food crops. Men predominate in export crop production although it is not unusual for women to tend their own export crops fields and keep the income earned therefrom.

Although still dominant, these traditional cropping patterns have undergone change. Shorter fallow periods and the increased ratio of cultivated to fallow land is reducing soil fertility. Chemical fertilizer and fungicide have been introduced but their use is still low in most of the region. Other signs of change are also evident, for example, the adoption of new implements such as seeders, plows, multi-purpose implements and carts, and of certain techniques such as deep plowing and sowing in

rows. Widespread use of animal traction for the more energy-demanding farm operations is limited by the lack of access to credit by the poor to allow purchase of draft oxen and the prevalence of debilitating animal diseases. More widespread adoption of animal traction is constrained also by the lack of a profitable technology using draft animals that is adapted to the semi-arid agriculture of the sahelian zone.

Some irrigated agriculture is practiced along river banks and small lakes throughout the region. These irrigation systems are of two types: traditional flood-recession irrigation in which crops are planted on riverbanks as flood waters recede, and small farmer-developed perimeters. Larger irrigated schemes have not been so successful due in part to poor construction and design and in part due to inadequate training of operating personnel and participating farmers.

Research and development of export crop technologies has resulted in significant returns to governments in the form of increased foreign exchange earnings. However, research and development of technologies for food crops has been relatively neglected with the result that the potentially large returns in the form of increases in real incomes for the small farmers have not been realized.

Despite limited investment in research on staple food crops, there are technologies involving integrated export and food crop production both for rainfed farming and small-scale irrigation that can result in modest productivity and income gains for small producers. These existing crop technologies are more promising in areas of higher (800 mm) and less-variable rainfall. Much remains to be done, however,

to develop substantially higher-yielding varieties of millet and sorghum, the principal sources of calories for the rural poor, and to develop highly profitable farming systems for small farmers.

Similarly, research and development of technologies in livestock production have been neglected with the exception of research on animal diseases and on rangeland species. Livestock production is potentially an important source of increased income for both herders and small farmers because of the growing domestic and export demand for livestock products. However, the many economic and social demands placed on animal production in the Sahel--milk production, cash income, security, prestige--combined with poor production practices results in low levels of productivity. One aspect of this problem is the herder-owner relationship in which the herder's compensation is derived principally from milk for subsistence and sale. As a consequence, overmilking results in high calf mortality and low rates of reproduction. Also, the limited access of the livestock owning population to consumer commodities together with the absence of savings/investment alternatives result in maintenance of large unproductive herds--a low offtake rate of about 10 percent is the general rule.

Closely associated with the neglect of research has been the slowness to develop institutions for delivery of information, services and inputs to food and livestock producers. Area development organizations established to provide support to export crop production and marketing have been slow to broaden their role to encompass food and livestock production. Various problems such as overly-centralized organization, lack of trained administrative and technical staff, and preoccupation with export crop marketing have made the area development organization a weak

conduit between the research station and the small farmer or herder.

The development of irrigated agriculture holds great promise for increasing food and agricultural production and raising the incomes of the poor. It is estimated that 600,000 hectares of land are currently being used for irrigation, including traditional flood recession cultivation. The potentially irrigable area by the year 2000, assuming the construction of regulatory dams, totals 1,830,000 hectares. Modern irrigation technologies exist that could probably be adapted for use in the development of Sahelian river and lake basins. However, making use of these technologies will require substantial investment in physical and social overhead capital, in the form of dams, irrigation systems, roads, social services facilities, adaptive research and training in ways to ensure the employment of small farmers in these schemes.

3. Infrastructure

The extensive area inhabited by the Sahelian population results in long distances to markets and high transport costs. Investment in transport infrastructure has largely been limited to building trunk roads and to linking Sahelian urban centers by road or rail to coastal countries. Few resources have been devoted to investment in all-weather secondary roads linking rural areas to main roads or to market towns or to building the capacity to maintain roads. One consequence of the lack of infrastructure is that grain in surplus producing regions cannot be moved economically to deficit regions and the cost of transporting food to and from the coast is high. The lack of secondary and feeder roads is a major constraint to increasing the access of the rural poor to such sector supporting services as agricultural extension or to such basic social

services as health. River transport is limited by the seasonal pattern of rainfall and poor management. Other inefficiencies hinder rail transport between Sahelian and coastal countries.

Other forms of rural infrastructure are in short supply. Realizing the potential of irrigation downstream from proposed major dams such as Manantali or Selingue will require substantial additional investment in irrigation systems. As with transport, many of the existing irrigation systems have fallen into disrepair or are being operated at less than capacity. Physically rehabilitating these systems, and strengthening the capability of managers and farmers to maintain them, would have a significant short-run payoff in terms of increased food and agricultural output.

4. Trained Manpower and Institutional Structure

Trained administrative and technical manpower is a limiting factor in every sector and at every level. Trained scientists, technicians and administrators are in short supply, and the continuance of the educational system designed in colonial times has contributed to the excessive growth of public employment rather than to the preparation of skilled manpower for agricultural and rural development. Educational institutions are ill-equipped--in terms of facilities, teaching staff, curricula, practical orientation--to produce the appropriate mix of skills needed for rural development. Sahelian governments must hasten the reorientation of their educational systems toward producing the requisite rural development skills.

Institutions such as official marketing boards have become instruments for centralized crop collection and storage, debt collection

for credit extended and agricultural taxation--all in the interest of obtaining a marketable surplus of export crops such as groundnuts and cotton from rural areas. In some countries, notably Niger, a large portion of profits also go into rural sector institutions which provide credit for rural investment as well as reinvestment into agro-industry plant and equipment related to the export product. In general, however, more of the revenues or exchange earnings from the export of primary commodities could be invested in rural areas. Aside from traditional social organizations, only a few local participatory institutions have emerged that would help ensure access by small farmers and herders to productive assets and promote a more equitable distribution of the benefits and costs of economic change. Local administrative and planning capabilities required to make farmer cooperatives and producer associations effective are also weak.

5. Social Services

The provision of social services to rural people is impeded by a number of factors. The demand for unmet medical or educational services in urban areas is high and there are powerful incentives that encourage health workers or teachers to choose urban as opposed to rural jobs. Access to health facilities can be expanded with more extensive use of paramedical staff trained in preventive medicine, but the provision of such services requires a high level of technical and administrative training and supervision and a functional referral system which is often not available.

Above all, wider provision of social services in rural areas requires substantially greater investment than is currently being allocated

to the provision of such services, and the capacity to finance their recurrent costs. In countries as poor as those in the Sahelian region, widespread local participation in the form of building and maintaining schools, dispensaries and roads will be essential to reduce the enormous investment and recurrent costs that would be required. The obstacles to such independent local action have been alluded to above. In addition to local participation, more external aid could be allocated to social service sectors, but such an allocation of existing or planned financial flows competes with aid to other sectors such as food production and agriculture whose development is also critical for accelerating growth and reducing poverty.

6. Government Policies

Sahelian governments have pursued agricultural and food policies that favored the urban consumer at the expense of small farmers and herders. Until recently, official prices for domestically-produced staple grains had been kept low both in relation to world market prices and to prices of manufactured goods. In addition, the prices urban consumers paid for imported rice and wheat had been subsidized in time of world shortages and high prices, tending to reduce the demand for cheaper, less preferred domestically-produced staples such as millet and sorghum. Low producer prices for food, food imports and subsidized urban consumption all combined to keep producers real incomes low, discourage investment in agriculture, slow the expansion of domestic production, and increase clandestine exports. Fortunately, this trend now shows signs of changing.

Although industrial jobs are few in number, they exert a pull on rural people to seek employment in urban areas. The consequences of

unrestrained migration presently are increased urban unemployment and poverty, and increased pressure on governments to step up the provision of social services to city residents paid for in part by taxing the rural population.

C. ASSESSMENT OF SAHELIAN ECONOMIC PROGRESS, COMMITMENT AND PLANS

1. Economic Progress

Economic growth in the Sahelian countries during 1960-76 has been slow. For most of the Sahelian countries, GDP has barely kept pace with population (Table 3). In Mauritania and particularly in Niger, recent rapid growth in iron ore and uranium production has led to high growth rates in the industrial/mining sector and to the increased availability of resources for investment. In Niger, close to 100 percent of uranium revenues go into the National Investment Fund. But here, as in other Sahelian countries, balanced and self-sustaining growth will of necessity require a long timeframe.

Senegal, as a result of its past position as the administrative and commercial center for French colonial West Africa, is considerably more developed than its neighbors. Although the Senegalese economy has grown very slowly during the past decade, it still has a sizeable manufacturing sector and a relatively large cadre of trained manpower to work in both the private and public sectors. Outside of Senegal and the mining sectors of Mauritania and Niger, economic activity remains largely agricultural at a very low level of productivity. Per capita incomes for Chad, Mali and Upper Volta were all under $150 in 1976 and the latter two countries have shown virtually no growth in real terms during the previous 16 years (Table 3).

Table 3

Basic Indicators for the Sahelian Countries

	Population		GNP Per Capita		Per Capita Indices Food & Agricultural Production Average: 1975-77 (1969-1971 = 100)	
	Total 1975 (000)[a]	Average % Rate of growth[b] 1970-75 (%)	U.S. dollar[c] 1976	Average % Rate of growth[e] 1960-76	Food[d]	Agriculture[d]
Cape Verde	290	-	260[a]	-	-	-
Chad	4,035	2.1	120	-1.1	83	88
Gambia	519	-	180[a]	-	98	98
Mali	5,697	2.5	100	0.9	83	86
Mauritania	1,322	2.7	340	3.7	70	70
Niger	4,592	2.7	160	-1.1	80	80
Senegal	5,000	2.7	390	-0.7	104	106
Upper Volta	6,032	2.3	110	0.8	96	93
Sahel Regional	27,487	2.5[e]	183[g]	0.1[e]	89	90
Low Income Countries	-	2.4	150	0.9	-	-
Middle Income Countries	-	2.7	750	2.8	-	-

Sources:
a/ Annex A, World Atlas of the Child (IBRD, 1978).
b/ Table 13, World Development Report (IBRD, 1978).
c/ Table 1, World Development Report (IBRD, 1978).
d/ Derived from Tables 5 and 6, FAO Production Yearbook (FAO, 1977).
e/ Weighted average for six countries.
f/ Weighted average for seven countries.
g/ Weighted average for eight countries.

It is clear that, with the exception of Senegal and perhaps Niger, significant diversification of economic activity has not yet begun in the countries of the Sahelian region. Economic growth has traditionally been dependent on exports of a few primary commodities. Peanuts, cotton and/or livestock account for 80-90 percent of the exports of Mali, Upper Volta, Chad and The Gambia. Minerals now account for a growing and significant share of export earnings in Mauritania and Niger; in the latter, revenues from uranium mining activities also contribute a sizeable portion to the national budget. However, there has been very little industrialization in any of these countries and all are almost completely dependent on imports for the products and commodities required for their development. The economic performance of the landlocked Sahelian countries is typical of other countries under similar circumstances and simply reflects the extremely difficult problems that must be addressed and overcome if development efforts in the Sahel are to succeed.

a. Agriculture

Poor economic performance is directly related to lack of progress in the Sahelian agriculture sector. Food grain production, which accounts for well over half of the value added in that sector in the Sahel region, has not kept pace with population growth. The regional index of per capita food production declined 10 percent during 1970-77 (Table 3).

The performance of export crop production was better than for food grains and provides the basis for the economic improvements that have occurred among rural people in the region. Export peanuts and cotton are the principal sources of money income for Sahelian farmers.

Progress, however, has not been dramatic and has been limited mainly to higher rainfall areas (above 800 mm). Export crop production has been successfully introduced and diffused in The Gambia and the central part of Senegal for peanuts, southeast Mali for cotton and peanuts, and in the southwestern parts of Upper Volta and Chad for cotton. In these areas, a relatively high percentage of farmers use animal traction (almost 50 percent in The Gambia) and most use some fertilizers and other inputs produced off the farms.

Since the drought all the Sahelian countries have increased producer prices for food and export crops; in some, the increases have been substantial. In The Gambia where peanut production has been well established for several decades, growth in production in recent years has been low but producer prices have risen by over 200 percent since 1970, with the result that in 1976 the rural population had an average per capita cash income of $35. In the groundnut growing region of Mali, production doubled between 1968 and 1977 and producer prices rose 150 percent. During that same period cotton production in Upper Volta quadrupled. Most of the benefits from these developments occurred in the higher rainfall areas of the Sahel. For the region as a whole, however, the productive capacity and well-being of most of the rural poor have not improved significantly.

b. Livestock

The performance of the livestock production sector is somewhat analogous to that of food grains. During the 1960's and early 1970's there was a relatively rapid growth in livestock production in the Sahel, largely due to favorable weather, improved animal health

services and programs to increase water supply. Following the drought, it became clear that increased production was due less to technological improvements than to increasingly intensive and excessive use of limited and ecologically fragile rangelands. Since the drought, priority attention has been focused on ways of increasing livestock production while at the same time reversing the deteriorating condition of the rangeland.

c. Demographic Trends

Limited progress in food and agriculture is further compounded by the rapid growth of population. For the region as a whole, population is growing at the rate of 2.5 percent a year and would be growing faster were it not for the prevalence of endemic disease, high rates of mortality and malnutrition. As health conditions and nutrition improve, population growth will probably increase because of reduced mortality and higher fertility. Although traditional attitudes and low child survival rates of the rural poor limit the effectiveness of family planning efforts, many Sahelian governments have come to accept family spacing if not family planning as a means of limiting population growth. In The Gambia, Niger, Mali and Senegal, maternal-child health programs are being broadened to include family planning services. Despite this progress, population growth will probably not abate until families perceive that there are social and economic benefits to be derived from fewer children.

d. Trained Manpower

Although economic progress has been slow, development activities are underway that are increasing the capacity of Sahelian governments to improve their development performance significantly. The basic problem is

Table 4

Demographic Trends in the Sahel

	Life Expectancy at Birth[a/]		Mortality Rate Per Thousand[a/]				Crude Birth Rate Per Thousand Population[b/]		Crude Death Rate Per Thousand Population[b/]		Percentage Change:		Total Fertility Rate[b/]
			Infants Aged 0-1		Infants Aged 1-4						Crude Birth Rate	Crude Death Rate	
	1960	1975	1960	1975	1960	1975	1955-60	1970-75	1960	1975	1955-60/1970-75	1960-75	1975
Cape Verde	43	50	95	79	-	-	47	33	-	-	-42.4	-	-
Chad	34	39	160	-	-	-	46	44	26	24	-4.5	-8.3	5.3
Gambia	36	40	67	-	-	-	42	43	-	-	+2.4	-	-
Mali	35	38	123	-	-	-	50	50	30	25	0.0	-20.0	6.7
Mauritania	36	39	187	169	34	-	45	45	26	24	0.0	-8.3	5.9
Niger	36	39	200	162	-	-	52	52	27	25	0.0	-8.0	7.1
Senegal	36	40	193	158	-	-	48	48	25	22	-0.0	-13.6	6.3
Upper Volta	32	38	182	-	-	-	50	49	31	25	-2.0	-24.0	6.5
Regional	35	39	168	159[c/]	-	-	48	48.3	28[d/]	24[d/]	-1.9[d/]	-11.0[d/]	6.4[d/]
Low Income Countries[e/]	36	44	142	122	-	-	48	47	26	20	-2.1	-21.1	6.2
Mid. Income Countries[e/]	49	58	72	46	10	5	45	40	17	12	-9.2	-27.3	6.1

Sources:
a/ World Atlas of the Child, 1978 (IBRD, 1978).
b/ Table 15, World Development Report, 1978 (IBRD, 1978).
c/ Weighted average (for years) for four countries.
d/ Weighted average (for year) for six countries.
e/ Table I, World Development Report, 1978 (IBRD, 1978). Figures are for the years 1960 and 1975, respectively.

that most of the prerequisites for broad-based rural development are missing. There is little economic infrastructure, support services are lacking and there is such a shortage of trained manpower that most institutions responsible for development activity are unable to function effectively. Solving these problems will not immediately yield improved BHN indicators but it will provide the means to achieve progress over the long run. The major constraint is trained manpower, and the small rise in secondary school enrollment during 1960-75 underscores the difficulties of rapidly increasing the number of skilled people (Table 5).

Differences in enrollment in secondary schools between the lowest and highest-income countries in the Sahelian region is quite large. The latter are better able to afford secondary education, but it is also known that increasingly complex economic and social activities go hand in hand with development and this implies quantum increases in trained manpower. Although data is not available on the numbers of trained personnel in various skill categories in the Sahel, it is known that their numbers are increasingly rapidly. During the 10 years ending in 1974 the number of Sahelian university students approximately quadrupled and the rate of increase has probably quickened since then.

The number of national institutions of higher learning has increased dramatically in the Sahel during the last decade. Most countries have a university. In addition, there are training institutions for teachers, agricultural technicians, health personnel, public administration and management and other vocational skills. These institutions need to be modernized to become more appropriate for their countries' needs and expanded. However, they are gaining experience

Table 5 **Primary and Secondary Education in the Sahel**

	Numbers Enrolled in Primary School as Percentage of Age Group (6-11 years)[a]		Numbers Enrolled in Secondary School as Percentage of Age Group (11-20 years)[a]	
	1960	1975	1960	1975
Cape Verde	56	-	6	-
Chad	16	37	neg.	2
Gambia	12	32	3	9
Mali	7	22	2	3
Mauritania	8	17	neg.	3
Niger	5	17	neg.	2
Senegal	27	53	3	11
Upper Volta	8	14	1	2
Senegal Region	12[b]	27[c]	2[d]	4[c]
Low Income Countries[a]	30	52	2	8
Middle Income Countries[a]	79	97	12	35

Sources: a/ World Atlas of the Child (IBRD, 1978).
b/ Weighted average for eight countries.
c/ Weighted average for seven countries.
d/ Weighted average for five countries.

and many are now much closer to being able to provide quality education than they were 10 years ago.

e. Decentralization

Partly as a result of increased higher level education, key development institutions are also improving. In recent years there has been a tendency to decentralize rural development activity in the Sahel. This has resulted in the creation of area development organizations in Mali, Upper Volta and Senegal. Originally these organizations concentrated almost exclusively on the production of export crops. However, their mandates are now being broadened to encompass regional development generally. In carrying out their functions, these organizations work closely with the small farmers of their respective regions and valuable lessons are being learned about ways in which broad-based, socially acceptable development can be achieved in various parts of the Sahel. The provision of social services are increasingly being devolved to these organizations or to local government units.

f. Conclusion

Much remains to be done to achieve real improvements in the lives of the rural poor. High-yielding agricultural technologies need to be adapted to the Sahel. Appropriate irrigation must be stepped up. Rural infrastructure and supporting services need to be greatly improved. This is especially true of roads and marketing systems. A road network exists but has deteriorated over the years because of inadequate maintenance. This problem is now receiving the priority attention of CILSS-member governments and donors in the Club du Sahel. It is also clear that access to the sea is extremely important. Although north-

south roads to Ivory Coast and Nigeria have been improved, not much progress has occurred elsewhere to benefit the land-locked countries.

2. Commitment to Growth with Equity

For the Sahelian countries a commitment to growth with equity means a commitment to rural development. This commitment requires developing high-yielding technical packages for rainfed agriculture, expanding irrigation and, in some ways most importantly, improving natural resource management and conservation.

The natural resource base in the Sahel is deteriorating. Achieving broad-based rural development in the Sahel will involve reversing this trend and increasing the productivity of food grains, export crops and livestock. This view has been accepted by all of the member-countries of the CILSS and donor members of the Club du Sahel and their development strategies have been designed accordingly.

Although an agriculture-based rural development strategy is more apt to be equity-oriented than one based on industrialization, equitable growth does not always or necessarily result. For the Sahel, however, the economics of crop and animal production at the present time dictate against plantations, large mechanized farms or ranches. Consequently most agricultural development programs are small farmer and herder oriented.

There is substantial evidence that Sahelian governments are taking equity into account in development programs. One basic indicator is the priority assigned to food grain production. Prior to the drought it was assumed that development depended on rapid growth in export crop production and that food grains would continue to grow with population.

The drought in the early 1970's demonstrated conclusively that food supplies in the Sahel have always been precarious and were becoming more so because of growing population, erratic weather and the allocation of land to export crop production.

All the Sahelian countries are according a higher priority to food crop production. In Mali, major programs are underway to increase millet and rice production. In Senegal, irrigation projects are aimed at eliminating the country's rice deficit and efforts are being made to increase millet and sorghum yields in the groundnut producing area of Sine-Saloum. Niger, Upper Volta and Chad have initiated expanded cereals research and extension programs at the national level. Politically, the most visible and sensitive need in these countries is to keep the urban areas adequately supplied and this is certainly a priority concern of the governments. They are also determined, however, to assure that the food needs of the rural population are met even during years of low rainfall.

The commitment is less clear concerning the relative importance attached to increased production, especially for export crops, as against increased rural incomes. Most agricultural development programs and policies in the Sahel are production-oriented and the achievement of production targets is not always consistent with equitable increases in rural incomes. In some cases, the investment and risk to be undertaken by the individual farmer to achieve increased output exceed what would be warranted by the increased income he is likely to get. In general, the farmers who are in a position to utilize agricultural inputs most productively will benefit the most but, on the other hand, there is no indication that the benefits are intentionally going to privileged

classes or groups.

The balance between urban and rural priorities, another indicator of commitment, is beginning to shift toward rural areas. Most social services are concentrated in the cities, but to a large extent this is because providing these services to rural areas is extremely difficult, expensive and generally beyond the technical and administrative capability of most Sahelian governments. Clearly more could be done and there is evidence that increased attention is being given to such matters as sanitary conditions in villages, low-cost health delivery systems and educational reform. There needs to be a thorough assessment of how meaningful the progress has been thus far.

Aside from the provision of social services there is the question of resource transfers from rural to urban areas by means of tax and price policies. Prior to the drought the policy of all of the Sahelian governments was clearly one of utilizing agricultural surpluses to finance urban development, industrialization and expanded government bureaucracies. There were no other sources of funds. In recent years there seems to have been a shift in this policy. Profits of marketing organizations are increasingly being used to pay for input subsidies and extension programs. More importantly, producer prices have been increasing since the early 1970's at a much faster rate than they did during the previous years. As a result, it is likely that more of the value added in agriculture is being returned to the farmer rather than allocated to other sectors.

Sahelian governments have made a tentative commitment to growth with equity but do not have very many programs designed to address equity concerns *per se*. With the limited resources available to them, when

they have to choose between growth and equity they usually choose the former. This is partly for political reasons but also because most policy makers in the Sahel as in other LDCs feel strongly that real development can only come through economic growth and modernization. In their view, choosing labor-intensive over capital-intensive methods of production, or low technology over high technology, is like accepting second rate economic status for their countries.

3. Host Country Development Plans

a. Policies and Goals

The common characteristic of all of the Sahelian development plans is that they seek rapid broad-based growth through agriculture-based strategies. Although Sahelian economies have barely kept pace with populations during the past decades, all of the current plans call for annual GDP growth rates of six to eight percent. Targets for food and agriculture aim at increasing production by four to five percent per year, about double the past rates. The other major objective is food self-sufficiency. For the inland countries this means ambitious growth targets for millet and sorghum production. Mali has placed a major emphasis on rice primarily because it has more potential than coarse grains for significant increases in production. Senegal and The Gambia are also placing heavy emphasis on rice since food self-sufficiency for them means the elimination of large rice imports. Finally, another top priority objective of all of the countries is to increase farmer incomes and reduce urban-rural income disparities.

These broad objectives translate into more specific objectives that differ somewhat between countries. One common objective is the

development and improved control of water resources. This involves primarily small irrigation projects along the major rivers but Senegal, Mali, The Gambia and Niger have also plans for large-scale river basin development projects. These projects are seen as virtually the only means of protection against drought and also as an important way to increase agricultural productivity.

Since the drought, another major goal, especially for Mali, Senegal and Chad, is reconstitution of their herds. These countries suffered major losses during the drought. They see a return of herd sizes to pre-drought levels as critical, not only to the herder and his well-being but also to assure adequate supplies of meat for cities and to earn badly needed foreign exchange through exports. Other goals stated as top priority in one or more of the plans were: (1) the diversification of agricultural production (Gambia and Senegal); (2) resource conservation (Niger and Senegal); and (3) improved access to outside markets (Niger). Although these objectives were not top priority concerns in all plans, they are in fact critical to the long-term development of most of the Sahelian countries.

All of the Sahelian countries put equity goals near the top of their priorities and many have in fact adopted important policy changes in pursuit of that goal. One of the most important of these is decentralization. Mali, Upper Volta, Niger and Senegal have decided to implement their rural development programs at the sub-national level. This not only results in more effective location-specific interventions but also helps assure that progress in rural areas is more broad-based than it would otherwise be. Many area development organizations, however,

continue to promote specific cash crops, and in most cases governments tend to give priority to regions with the highest agricultural potential; the majority of cash crop producers in these regions are, of course, also poor farmers.

The goals and policies of the Sahelian governments concerning health, education, industry and other sectors are fairly typical of other small least-developed countries and need not be discussed in detail here. It should be noted, however, that although rural health is given a high priority, the governments have not yet begun addressing the problem with substantial funding. Curative medicine and effective, widespread, low-cost rural health delivery systems have not yet been developed and are not receiving substantial budget allocations. Similarly, rural education and education reform are being discussed by a few countries but little concrete action has been undertaken.

g. Development Programs

All of the development programs in the Sahel place heavy emphasis on agriculture and infrastructure. As noted above, the approach to rural development in most of these countries is decentralized so that programs tend to be in the nature of integrated agricultural production projects.

Senegal is currently mid-way through its fifth five-year plan (1978-1981) which totals $1.8 billion. Of this amount, 27 percent is for the primary sector (crops, livestock, fisheries and forests), 24 percent is for the secondary sector (industry and mining), and 13 percent is for infrastructure. The remainder is for social services and miscellaneous. Large amounts under the plan are for irrigation and transport projects.

The major agricultural programs are administered by parastatal organizations whose responsibilities are defined in terms of specific crops and regions. Looking to the future, Senegal is placing high priority on rice and is planning large programs in the Senegal Valley and in the Casamance. The objective is to eliminate rice imports by the mid-1980's.

The 1974-78 Mali Development Plan was only about half completed by the end of 1978, and the GRM continued its implementation in 1979. The current cost is estimated at $1.2 billion. The plan gives first priority to developing the agricultural and livestock sector in order to meet basic food requirements of the population. Projects in the transportation sector are also directly related to the objective of increasing agricultural production. They aim at improving access to producer regions and lowering transportation costs. Other priorities are to increase the exploitation of local resources and to achieve a more extensive industrial processing of Mali's primary products. To this end, the plan emphasizes the development of hydroelectric resources. The plan also aims to improve social services, especially in education and health. Preliminary work on a new development plan is underway.

The draft Upper Volta Development Plan (1977-81) places first priority on rural development and the development of water resources. More than a fifth of the $1 billion in planned investment over the five year 1977-82 period will go into agricultural projects including the Volta Valleys, now being cleared of onchocerciasis. The Health Ministry's recently proposed rural health delivery system reinforces the GOUV

commitment to improving the quality of life and productive potential in the rural areas. The next highest priority is reform and extension of the education system to meet the needs of an agrarian economy. Industrial development is centered on encouragement of more highly labor-intensive small and medium-sized enterprises to reduce under-employment. Infrastructure development includes upgrading the major trunk roads and improving the feeder road system. The overall approach to development involves strong local participation and decentralization of decision-making to the regional (sub-national) levels.

Niger had not planned its rural development activity in an integrated way until recently. This was primarily because the opportunities for more development activity were limited and Niger had very little financial resources or implementation capacity. This situation is rapidly changing as a result of the country's uranium revenues. The recently ended Three-Year Plan (1976-78) totalled $365 million of which $77 million was funded by the GON. The next plan will be much larger and an even larger share will be GON-funded. The government will undertake a number of integrated agricultural projects at the Department level. In addition, small irrigated perimeters are also being developed. For the longer term, plans are actively underway for the Kandaji dam to be located north of Niamey near the Mali border. A substantial amount of resources are also going into major roads, the most important of which is the currently unpaved portions of the east-west road linking Niamey to Diffa. Another major priority is the construction of administrative infrastructure as a prelude to expanded and hopefully more effective public sector institutions.

The smaller development programs in the Sahel--Chad, The Gambia, Mauritania and Cape Verde--concentrate on agriculture and infrastructure in much the same way as the countries described above. Most of the rural development activity in Chad is in the southern part of the country and consists either of programs to increase cotton production, or integrated efforts to develop areas that appear to have potential. The other major area of activity is around Lake Chad where efforts are underway to introduce irrigation in the polders. Outside of agriculture, the major activity is a World Bank/USAID-financed road maintenance project. In Mauritania, the major activities are an all-weather east-west road from Nouakchott to Nema, and irrigation projects along the Senegal River. In The Gambia, the major programs are an integrated rural development project that covers the western half of the country and a program to construct all-weather roads running the length of the country on both sides of the river.

PART II

SAHEL DEVELOPMENT STRATEGY

A. THE CILSS-CLUB FRAMEWORK

AID proposes to address the development problems analyzed in Part I through the CILSS-Club strategy and planning process. The multi-donor CILSS-Club program has two basic goals: (1) the achievement of food self-sufficiency and (2) eventual self-sustaining growth and development. Food self-sufficiency is clearly the highest priority goal of the Sahelian states. The second objective focused on self-sustaining development represents the CILSS-Club long-term goal. Donors and Sahelians have come to recognize that, with continued increases in population which are inevitable, long-term food self-sufficiency requires a strong and dynamic economy that can generate resources for agricultural inputs and provide the technological base for long-term increases in agricultural productivity. Self-sustaining development may be defined as the indigenous capacity to achieve long-term economic growth and provide continuous improvements in quality of life for the majority of the people. Basically what is needed is: (1) a high enough level of economic activity to generate resources for production-increasing investments, (2) a diversified and reasonably stable economy, (3) an infrastructure base that will support an expanding economy above the subsistence level, (4) an indigenous capacity to train the manpower needed to bring about and sustain growth and progress, and (5) a level of social services, including basic health and primary education, that permits the majority of the population to participate in the development process and lead productive and continuously improving lives. For the Sahelian countries,

achieving this level of development will require tremendous indigenous efforts and large amounts of foreign assistance over a long period of time. Also, given their small size, isolation and narrow resource base, long-term growth and development depends on the Sahel countries becoming better integrated into the rest of the West African regional economy.

The regional strategy for achieving the CILSS-Club goals has six major elements. These are:

- rainfed agriculture,
- irrigated agriculture,
- livestock,
- resource conservation,
- transport and infrastructure, and
- human resources.

These elements are interrelated and address not only food self-sufficiency but also the broader problems of rural development and increased incomes for the poor majority. Rainfed and irrigated agriculture are the most important and have the highest priority within the Club.

Rainfed agriculture currently accounts for most of the food production in the Sahel and generates most of the rural employment and income. The goal of the CILSS-Club is to double food production in rainfed areas by the year 2000. This is to be achieved first by disseminating proven technologies to small farmers and, over the longer term, by developing new technologies to achieve higher yields and increase drought resistance. The development of new technologies will involve creating an adaptive research capacity in the Sahel and improving linkages between Sahelian

research institutions and international research centers on the one hand and Sahelian extension services on the other. Another aspect of the rainfed agriculture strategy is the opening up of new lands. Some of these underutilized lands, particularly those currently being cleared of onchocerciasis, are in high rainfall areas and are potentially very productive. Since developing these lands will involve considerable costs and in some cases high social risks, the approach is to proceed from technical and socio-economic studies to the preparation of land use plans, the development of economic and social infrastructure and finally organized resettlement of farmers who are now in overpopulated and/or less productive areas. These new lands also will be given development attention.

It is a basic tenet of the CILSS-Club that the Sahel cannot achieve food self-sufficiency without major investments in irrigated agriculture. This is not only because rainfed agriculture will always be vulnerable to droughts but, more important, rainfall levels in the Sahel are too low and too erratic for truly high-yielding technologies ever to be adapted. The situation is one where crop yields in rainfed areas could reach 1,500 to 2,000 kg. per hectare (double present levels) in years of high rainfall. With assured water (irrigation) it is possible to achieve yields of 4,000 to 6,000 kg. per hectare. It has been estimated that there are four million hectares of irrigable land in the major river basins of the Sahel. Comprehensive feasibility studies are required in each case. The Club strategy is to carry out these studies on an urgent basis and to begin the construction of large multi-purpose

projects in the mid to late 1980's. The present planning is to have an additional 600,000 hectares under irrigation by the year 2000. All of the rice, wheat and sugar consumed in the Sahel will be produced on these irrigated lands as well as substantial amounts of corn, millet and sorghum. At the same time that the feasibility studies for river basin development are being conducted, irrigation projects that do not require major investments will continue to be developed. These projects include the rehabilitation of existing irrigated perimeters that have fallen into disrepair as well as the development of new perimeters that are low cost and economically viable.

After crop production the most important economic activity in the Sahel is livestock production. This is the sector that was most adversely affected by the drought and the major short-term objective of the CILSS-Club is herd reconstitution. The long-run objective is to achieve continued increases in animal production without further deterioration of the rangeland. The goal that has been adopted by the Club du Sahel is six percent annual growth for the next 20 years. This is to be achieved through improvements in range management, animal husbandry practices, integration of livestock and crop production including animal fattening activities by small farmers, more efficient marketing systems and, perhaps most importantly, increased rates of harvesting (i.e., offtake).

Aside from the obvious need to increase agricultural productivity, the most urgent task facing Sahelian governments and donors is natural resource conservation and preservation of the Sahel's threatened resource base. The Club strategy emphasizes two aspects of this problem:

deforestation and deterioration of the rangelands. Projections show that demand for firewood is growing at a rapid rate at the same time that the size of the forests is declining. Environmental protection thus is a high priority of the CILSS-Club. Studies are needed to determine feasible alternative sources of energy, but in the meantime the Club strategy calls for the immediate planting of tree plantations around villages and towns. A key requirement for the success of this program is the education of the rural population on the need for reforestation and on ways of initiating and managing reforestation projects. Similarly the key to range preservation is the education of herders on the need for improved range management. Studies and experiments are needed to determine the best ways to organize herders for this purpose; such training activities and studies are being incorporated into all CILSS livestock production programs.

The final two elements of the CILSS-Club strategy, transport and human resource development, address constraints that are common to all of the production sectors. In transport, the top priority concern is all-weather rural roads. This is considered to be one of the key constraints to increasing agricultural production above the subsistence level. The strategy calls for (1) the rehabilitation and improved maintenance of the existing all-weather road network and (2) the construction of additional rural roads usually in conjunction with integrated agricultural development programs. Over the longer term it is also an objective of the Club du Sahel to restructure the overall transport network in Sahelian countries so that intra-zonal transport needs can be met as well as the dominant movement of imports and exports outside the region.

The priority objective in the human resource area is to break manpower constraints in the productive sector programs. This calls for improving and in some cases expanding the institutions that train mid- and high-level technicians. Other priority human resource concerns are: (1) functional literacy programs in rural areas, which entails the restructuring of the education system away from an exclusive academic orientation, and (2) improved health delivery systems for rural areas. These two measures are considered to be essential elements of any program to increase productivity and well-being in rural areas.

The CILSS-Club development strategy as presently articulated has as its top priority the achievement of food self-sufficiency and reduced vulnerability to future droughts. The approach for achieving this goal is basically small farmer-oriented so that food production increases will be accompanied by higher farmer incomes and broad-based development in rural areas. During the early years the strategy calls for direct impact programs aimed at increasing food production (primarily through rainfed agriculture) and improving rural infrastructure and social services. At the same time necessary first steps aimed at long-term sustained agricultural growth in the Sahel will be undertaken. These include the creation of various institutions needed to implement development programs; the training of manpower in technical and managerial skills needed for modernization; and growth and the filling of information gaps that are constraints to progress in most sectors, especially river basin development. These efforts will lead to programs in the 1980's that will greatly enhance agricultural productivity and enable the Sahel to withstand the effects of future droughts. If the CILSS-Club goals are

reached the following conditions will prevail in the Sahel by the year 2000:

- productivity in the agriculture and livestock sectors will have increased substantially and the region will have much of the expertise needed to continue the process without outside initiatives;
- multi-purpose development of the major river basins will be well underway;
- natural resource degradation will have been halted and possibly reversed; and
- institutions, trained manpower and infrastructure will be in place to meet the economic and social needs of the region, particularly those related to agriculture and rural development.

Although the goals of the CILSS-Club are stated primarily in terms of food production, the overall development process in the Sahel is considerably broader than that. All individual Sahelian countries have comprehensive development programs that cover export crops, major infrastructure, industry, minerals and urban development; these programs receive considerable support from the donor members of the Club. Thus, issues that are critical to the achievement of self-sustaining development in the Sahel, such as the relative priorities of export and food crops, planning for Sahel-wide transport needs and comparative advantages related to industrialization, are being addressed jointly by donors and Sahelian governments through the CILSS-Club and at the individual country level. As the focus shifts from the immediate problem of food

self-sufficiency to the longer term one of self-sustaining development, it can be expected that all sectors of the Sahelian economies will be integrated into the CILSS-Club regional development strategy.

B. AID'S DEVELOPMENT STRATEGY AND TARGET GROUP

As a member of the Club du Sahel, AID accepts the goals and priorities reflected in the CILSS-Club regional development strategy described above. AID's participation in the multi-donor Sahel development program is further influenced by (1) its own analysis of the nature and causes of poverty in the Sahel as presented in Part I of this paper and (2) the Agency's mandate to concentrate U.S. assistance on meeting the basic needs of the poor majority. This means that AID will help achieve the two main goals of food self-sufficiency and self-sustaining development by emphasizing broad-based increases in income, employment and social services for the rural poor. In strategy terms this implies that agriculture programs are seen as part of a broad-based rural development effort and top priority is given to increased small farmers' incomes, equitable distribution of benefits, popular participation and the various relationships between increased production and other basic needs of the rural poor.

In the interest of achieving the most efficient use of scarce resources, AID chooses to interpret the food self-sufficiency goal as aiming at long-term food self-sufficiency for the region as a whole. This means that over the long term the Sahelian countries as a group will produce enough food to feed the total population of the region. During good years the region will produce more than necessary and will build

buffer stocks. Stocks will be drawn down during years of low rainfall. Implicit in the goal of regional as opposed to national self-sufficiency is the assurance that any one country experiencing a long-term deficit will have the means to obtain its food requirements from outside through trade and the capacity to distribute it internally where it is needed. This has also been defined as food security or food self-reliance.

At the present stage of development in the Sahel the appropriate strategy for achieving the development goals for the Sahel is to concentrate on increasing productivity at the small farmer level. Since small farmers in the Sahel make up over 80 percent of the population and produce largely food grains, increasing their productivity would achieve increased food production as well as widespread increases in rural incomes. This in turn would provide the basis for improved social services in rural areas. Further, the institution-building and infrastructure-development required to increase small farmer production above the subsistence level would do much to begin the modernization process leading to self-sustaining development. Also, support to small-scale enterprise and agro-industries related to agricultural and rural development can help the small farmer by providing locally made inputs and markets for local production.

Accordingly, AID will concentrate its development assistance in efforts to enhance the welfare of the rural poor. These efforts will be directed primarily toward small farmers and herders who live in the Savanna belt (the sahel and sudan zones) above 300 mm mean annual rainfall. Rainfed production programs will be concentrated in areas with a mean

annual rainfall of 450 mm or greater. Livestock programs will be carried out in both the sahel and sudan zones. The choice of target areas excludes direct action in the subdesert areas of less than 300 mm of rainfall, with the exception of small irrigation development. This does not imply the exclusion of nomadic peoples who migrate south to the sahel zone from participating in relevant programs, e.g. livestock and health projects, when their migrations bring them into contact with such project activities. AID will seek opportunities to promote small-scale private enterprise and small agro-industry in rural areas where such activities relate to agricultural development or create employment opportunities in market centers, small towns and villages. Special attention in agriculture and agro-industry will be given to the sparsely settled areas now being freed from endemic disease. AID does not envision major assistance to the urban poor except on a selective basis when the conditions warrant it.

As related to these target groups, AID will pursue six specific objectives in the Sahel over the next decade. These are:

1. Increase agricultural production using proven technologies.
2. Strengthen the institutions and train the manpower needed to achieve sustained increases in agricultural production over the long term.
3. Develop the infrastructure base, particularly as it relates to agriculture.
4. Halt the deterioration of the natural resource base and

develop energy sources.

5. Improve preventive and curative health services in rural areas and initiate population planning wherever possible.

6. Develop the human resource base primarily through mid-level technical training and functional education in rural areas.

AID's priorities and strategies with respect to each of these objectives are discussed below.

1. Agriculture Programs Using Proven Technologies

These programs, which can achieve moderate increases in production in the short-run but have limited potential for continued increases over the long-term, are based on the dissemination of existing technologies to small farmers and herders. This is done primarily through integrated rural development (IRD) projects which not only provide extension services but also credit for animal traction and other inputs, rural roads, storage facilities and on-farm trials of new technologies. These projects can involve the integration of food crop, export crop and livestock production and, in some cases, small-scale irrigation systems. In addition to IRD projects AID will support the development of irrigated perimeters and small herder-oriented livestock production programs. These latter projects will be fewer in number but, in those instances where they are feasible, the development impact can be substantial.

Past experience has shown that small farmer-oriented programs, whether IRD projects, irrigated perimeters or livestock production, are very complex and concrete results are accomplished largely through a process of providing the farmers with the knowledge, means and incentives for them to make their own decisions regarding increases in production.

AID has a number of such projects in the Sahel and it is our goal to initiate new ones as opportunities arise. These projects are all expected to be long-term with results becoming increasingly significant as technical, economic and social lessons are learned by farmers and Sahelian and donor technicians.

2. Institution-Building Related to Agriculture

a. Research

During the next decade AID will give much greater emphasis than in the past to developing and delivering new technologies in both crop and livestock production that are appropriate for small farmers and herders. The research base for creating a far more productive agriculture sector and improving the welfare of the rural poor is deficient in the Sahelian countries. Agricultural research, especially on food crops, has not benefitted from investment commensurate with the importance of agriculture within the region, or with the large returns that investment in research can bring.

The major emphasis in research should be on local, adaptive research and on the nature and characteristics of local farming and herding systems, including research in social and economic constraints faced by farmers. Research is required on the improvement of water management practices in both rainfed and irrigated agriculture, on the improvement of soil fertility, plant protection and pest management, and on the development of appropriate farm mechanization technologies. The development of intermediate mechanization technologies is critically needed to overcome the constraints imposed by periods of peak labor demands. The primary goal of this research will be to capitalize on the unused potential of

rainfed agriculture and small-scale irrigated agriculture; a secondary goal is to set the stage for future investments in medium and larger scale irrigation systems that are more costly and more technically demanding.

AID's efforts will take the form of financial and technical assistance to build national and regional research capacity through IPM, SAFGRAD and others, and to increase the relevance of that research to the needs of small farmers and herders. Emphasis will be placed on building the capacity to carry out adaptive research so that national research institutions can identify and test under Sahelian conditions food production technologies developed by the international research centers such as ICRISAT and ILCA or by research organizations in other developing or developed countries. Because even adaptive research requires high levels of scientific and technical ability, AID will supply scientists and technicians to work directly within research organizations and will begin identifying and training Sahelian scientists and technicians to reduce progressively this dependence on expatriate research personnel.

Part of the effort to develop new technologies involves the introduction of modern agriculture inputs. Increased supplies of seeds, fertilizers, pesticides, and farm machinery should be provided to enable area development organizations to reach large numbers of small farmers. One of the most critical constraints to increasing food and agricultural production in the Sahelian countries is the shortage of phosphates for fertilizer. Since low-grade phosphate ores are abundant throughout the region, during the 1980's AID will provide assistance to the Sahelian

countries to carry out explorations, testing and feasibility studies on the creation of simple crushing facilities to manufacture ground rock phosphate for direct application as fertilizer. As feasibility is determined, AID will be prepared to assist in financing the manufacture of ground rock phosphate either bilaterally or with other donors.

b. Extension

Extension, in the form of delivering production inputs and technical information and services to farmers and herders and training them in the use of new techniques, is now carried out largely by area development organizations, many of which are primarily responsible for export crops. Whether provided regionally or nationally, extension services in the Sahelian countries are plagued by unknowns for farmers, poorly trained and inadequately equipped agents, and few linkages between extension and research. A notable characteristic of extension in the Sahelian countries is its failure to reach women who in many instances are the principal producers of food crops.

AID's approach to extension will be to improve the quality and relevance of training received by extension agents and to include the appropriate retraining of existing agents as part of agricultural production projects. AID will also concentrate on improving linkages between research institutions and extension services. Because experience with traditional extension services has been so unsatisfactory both in the Sahel and elsewhere, AID will experiment with alternate models and approaches to providing extension, including the use of mass communication media, the use of women agents, and the involvement of both farm men and women as cooperating personnel at the village level. AID's experience

with different models for providing extension services across the Sahelian countries will be monitored and evaluated carefully and successful experiments will be replicated as projects are designed or redesigned.

c. Supporting Services

The supporting services that require the most urgent attention in the Sahel are agricultural credit, and food grain storage and marketing systems.

The limited availability of long-term credit for the purchase of draft animals and equipment is likely to retard the extension of improved technologies to larger numbers of small farmers. Institutional credit to small farmers is presently provided only by the area development organizations. Although this does provide for some coordination between credit and the provision of other agricultural services, it limits the number of credit recipients.

During the 1980's, AID will seek to expand the capacity of area development organizations and state-supervised cooperatives to provide adequate seasonal and longer term credit. This assistance will include training to strengthen the administrative capacity of managers of credit programs. At the same time, AID will try to involve local farmer and herder associations/cooperatives in the management of credit schemes in order to reduce administrative costs and rates of default.

AID's support to marketing and storage in the Sahelian countries will include financing the construction of grain storage facilities, and providing technical assistance both in managing the acquisition and release of stocks of grain and in assessing the economic

impacts of stocks management on producers and consumers. Assessing the effects of grain marketing operations on the structure of agricultural prices and agricultural incomes is critical in a strategy that seeks to raise rural welfare by increasing food production. AID will promote such assessments at the levels of both the Sahel region and the individual Sahelian state.

Sahelian governments have evinced a decided preference for public sector grain marketing institutions as an alternative to private traders and several Sahelian governments have given official marketing boards a monopoly on grain trading. In practice, this official monopoly is difficult if not impossible to enforce, and the limited empirical evidence available indicates that large numbers of low-volume Sahelian grain traders are highly efficient in amassing output from large numbers of small producers and in distributing supplies. Thus, AID will provide assistance on two fronts: first, to marketing boards, to even out fluctuations in grain supplies and to influence structural changes in price policy; and, second, in conjunction with food production projects, to groups of small farmers to enable them to store grain locally and take advantage of higher seasonal prices. The use of PL 480 commodities in support of both these approaches is discussed below as an important aspect of food for development.

d. Planning, Policy, Monitoring and Evaluating

Although Sahelian countries have received considerable technical assistance from U.N. agencies, France and other donors for general planning for economic development, they have received little assistance in planning the development of the agricultural sector or in planning

rural development. The Club and CILSS, recognizing this shortcoming, have called for a major effort to strengthen the analytical capability of Sahelian governments in agricultural planning and policy formation as part of the Club's effort to develop a strategy for investment in rainfed and irrigated agriculture.

It will be part of the AID strategy to assist CILSS and the Sahelian countries to strengthen their capacity to plan and formulate policies for agricultural and rural development. AID will also help to establish a Sahel-wide system that will measure the current basic needs status of the poor, and the changes in employment, income, nutrition status and access to basic social services that accompany development projects and programs.

3. Natural Resource Conservation and Energy

Reversing environmental degradation is a critical prerequisite to long-term economic growth in the Sahel. If steps are not taken soon to conserve forest and range resources, the Sahel's major source of energy will be depleted and growth in livestock production will be severely limited. Also, as crop production in the Sahel becomes more intensified, problems of soil depletion and erosion will need to be addressed.

At present, the main energy source in the Sahel is firewood used primarily for cooking but also to some extent for heating. The immediate problem is that forests around cities and major towns are being denuded and, for the region as a whole, sources of firewood are being utilized faster than they are being replenished. If present trends continue, forests could disappear from large tracts in the Sahel by the end of the

century. This has major economic implications. The Sahelians may have to switch to another source of energy, oil for the more affluent and perhaps cowdung for most of the rural population. The use of cowdung for heating combined with the loss of tree cover will have serious effects on soil fertility. Although this is the most serious energy problem in the Sahel, over the very long-term the high cost and world scarcity of petroleum products could become an important constraint to growth of the Sahelian economies.

The Club recently compiled a study of energy problems in the Sahel. The main findings of the study were:

- The most serious energy problem is the excessive use of firewood. Since there are no economic alternatives to firewood for cooking, the only solutions to the problem are the use of more efficient stoves and reforestation.
- Present reforestation problems are insignificant compared to need and a massive increase in such programs is urgently required. Such programs have been shown to be economic and successful in other countries, e.g., Algeria.
- Although hydroelectric power accounts for only a small portion of energy consumption in the Sahel, it is very important to the modern sector. All of the region needs for additional electricity for the next 20 years can and should be met through hydroelectric rather than fuel-powered plants.
- Alternate energy sources appear feasible under certain circumstances and should receive further study. These

include windmills, solar pumps for irrigated perimeters and solar water heaters.

- Each Sahelian country should have a long-term energy program to systematically develop its energy sources and identify ways of using energy most efficiently.

A combination of firm government policies and increased public awareness is now needed. During the early 1980's the AID strategy will be to increase Sahelian expertise in natural resource management and to initiate economically and socially feasible problems to reverse existing trends. If solutions require new investments in plantations, firebreaks, fencing and labor-intensive resource management programs, AID will provide the financial and technical support needed. The key goal to be pursued by donors and Sahelians alike is to find solutions to the problem of natural resource degradation during this decade and to begin to reverse the process during the 1990's.

4. Infrastructure

Infrastructure requirements in the Sahel as in other least developed countries range from major infrastructure like railroads and telecommunications down to rural roads and minor irrigation systems. In evolving its concept of basic human needs AID has come to recognize that, even in the presence of appropriate development policies in recipient countries, the absence of certain infrastructure can indeed be a critical constraint to helping the poor majority. This is clearly the case in the Sahel. The Sahelian governments have adopted a long-term development strategy that is agriculture-based and oriented toward small, largely subsistence farmers. A key element of that strategy involves infrastructure

investments essential to long-term agricultural growth. The most important of these investments are in two sectors: transport and irrigation.

a. Transport

The most critical need in transport is a network of all-weather secondary roads linking the important population and production-marketing centers in the Sahelian countries. These roads are needed not only to transport marketable surpluses of food grains and export crops to markets but also to move food grains from surplus to deficit areas. This is a continuing need in the Sahel where rainfall is so sporatic that, even in years of high rainfall at the national or regional levels, some areas receive little rain and experience food deficits. In the past the lack of an adequate road network has made it impossible to provide food to these areas when needed. AID's transport assistance will include the improvement of existing roads as well as the construction of new roads. In general, road improvement and construction will be associated with projects to increase production and to broaden the access of the rural poor living in remote areas to government services and markets.

Road improvement and construction will be accompanied by programs to increase the capacity of Sahelian countries to maintain roads once they have been improved or built. This aspect of assistance to infrastructure will involve training and technical assistance in management, maintenance, procurement and the management of recurrent costs. Similarly, AID will assign higher priority to upgrading the existing secondary road network rather than expanding it. The selection and

design of roads to be improved or constructed will be determined largely by the production impact of the roads and the likelihood that resources at the local or national level will be generated to cover maintenance costs.

b. Irrigation

Most of AID's assistance in irrigation development will be devoted to small to medium-scale irrigation systems that include a large element of farmer participation in construction and management. Such irrigation will be carried out in higher rainfall areas as an adjunct to rainfed agricultural production as well as in areas near major rivers and lakes, and will be complementary to AID's efforts to increase productivity in rainfed agriculture.

In conjunction with other donors AID will assist in the rehabilitation of irrigation systems that have fallen into disrepair or are not working at capacity. AID will also participate in financing new irrigation projects on a selective and experimental basis designed to develop efficient systems that will be suitable for implementation in conjunction with multi-purpose river basin development projects. AID is in agreement with the CILSS-Club assessment that large-scale irrigation is critical to achieving long-term food self-sufficiency; AID will give higher priority in the near-term to financing downstream irrigated agriculture. AID will participate, along with other donors, in river basin feasibility studies during the early 1980's leading to joint financing of mainstream construction (dams, power generators). It will be AID's objective to orient the planning of these projects primarily toward small farmer production rather than large-scale commercial farms.

c. Project Financing Criteria

Certain criteria will be met by these projects before they become eligible for AID financing:

- the projects, on completion, must provide benefits (e.g., controlled irrigation water, improved access) to areas in which AID or other donors, under Club du Sahel auspices, are making an investment in basic human needs assistance;
- the projects will induce measurable improvement in the lives of the peoples in these areas substantially greater than would occur with existing AID and other donor assistance;
- there are no smaller scale alternatives which could provide comparable benefits to the rural poor;
- the influences on the social, health and physical environment have been carefully examined and all possible precautions taken to prevent or minimize human and ecological damage;
- the project has been coordinated with other donors in both its planning and financing aspects.

5. Rural Health and Population Strategy

In accordance with the CILSS-Club health strategy, AID actively promotes the linkage of Sahel health initiatives with development activities in other sectors in the belief that increased productivity is directly related to improved health status. Sustained accelerated growth is best supported by integrating health actions and concerns with

agricultural and water development programs while attempting to minimize the negative health impacts of these development activities. AID's activities of integrating health actions and of expanding Sahelians' accessibility to primary health services will be targeted to rural populations without overburdening the existing infrastructure. The goal of AID's health initiatives in the Sahel is to develop and expand a permanent and self-sustaining health care delivery system which is compatible with the ability of CILSS countries to absorb additional services, manpower and low recurrent costs. AID development support for health services and the supporting infrastructure will concentrate in the areas of primary care through technical assistance for demographic data analysis, village-based delivery systems, endemic disease control and family planning.

a. Integrated Village-Based Health Care Delivery Systems

The major component of the AID direct health care strategy is assistance in the development of low cost delivery systems to improve access to care for the 80 percent of the Sahelian population living in rural areas. Expanding access to primary care and preventive services centers around the village-based health worker who is the provider of initial service at the entry level of the delivery system. Village health workers are trained to provide simple clinical procedures; health education, including nutrition and family planning; health promotion including prenatal, maternal and infant care; and disease prevention services. The AID health strategy stresses the development of systems required to train, support and supervise village health workers in order to integrate village-based units with existing government health systems.

b. Control of Endemic Diseases

In addition to the provision of direct curative and preventive care, AID will stress endemic disease control components in the integrated village health delivery systems and integrated rural development programs. AID will continue to expand its assistance in the design and implementation of expanded programs in immunization to decrease the incidence of such diseases as measles, polio, tuberculosis, pertussis, tetanus and diptheria in targeted populations. AID will also assist in the planning and design of endemic disease control components into integrated rural development programs to address potential increases in the incidence rates of onchocerciasis, schistosomiasis and trypanosomiasis in those project areas where these diseases pose constraints to increased productivity. Projects designed to provide safe drinking water through the development of community water supplies will receive support by AID.

c. Population

Rapid population growth can negate, and in some respects undercut, much of the progress made in the productive and social service sectors. At the same time, the lack of reliable demographic data limits the abilities of Sahelian decision-makers to adequately set health policies and population strategies according to existing and projected needs. AID's current objective is to assist Sahelian governments in the improvement of data collection and analysis of reliable information crucial to the design of appropriate health strategies and interventions. The long-term objective is to assist the Sahelian governments to achieve a population growth rate that is consistent with their resource base, absorptive capacity and development goals. Toward this end, AID is

expanding its support for the delivery of family planning/child spacing and nutrition services to targeted populations within the culturally acceptable mode of maternal and child health care. In this integrated health care context, clinics, health posts and village health workers will provide expanded services to counteract constraints to the lowering of infant mortality and the encouraging of natural family spacing.

6. Human Resources Development in the Sahel

The lack of an appropriately skilled human resource base inhibits economic and social development in the Sahel. The problem is severe enough to justify training and education assistance in nearly every sector and at all levels.

Consistent with AID's emphasis upon the development of the rural agricultural sector, priority will be given to selected activities that impact upon a broad range of beneficiaries in a balanced manner, all supportive of the rural poor, while recognizing that the general thrust in each country will influence the ordering of, and emphasis placed on, these priorities:

- Skills training in appropriate farm and off-farm related technologies; health, nutrition, literacy, cooperative organization and general learning for the rural farm family through support to Sahelian institutions for the training or retraining of low and mid-level cadre who will in turn provide outreach services in their respective disciplines. The possibilities of introducing innovations, such as the use of media, to provide outreach to geographically isolated populations will be examined.

- Training and retraining for mid and higher level cadre in the public, para-public and private sectors in planning, execution and evaluation, including finance, accounting and general management. This training will be conducted, as national requirements dictate, through a blend of short-term in-country training, support to appropriate Sahelian training institutions and participant training.
- Formal education from primary school through university.

AID is committed to the development of indigenous educational and training capability in the Sahel, but recognizes that this must be achieved in a phased manner. AID will judiciously allocate resources in support of formal education, but the attribution of these resources will differ significantly in each country in proportion to the degree of advancement of each educational program as it relates to national development objectives, and in consideration of other donor input and the overall AID program and its human resource requirements. AID will adhere to the principles of resolving rural/urban and male/female inequities in access to educational opportunity, particularly at the primary level, and of improving internal efficiency at all levels through teacher training, improved curricula and better administration. AID will carefully examine proposals for expansion of primary education in consideration of recurrent cost implications. AID will provide whatever assistance seems appropriate in the interest of achieving institutional self-sufficiency.

Special care will be taken to assure that all AID projects impact directly and positively upon women. In addition to considering their concerns in the design and implementation of all AID projects, AID will

specifically consider how training will involve women, how technology will impact upon women, how women may gain better access to credit, how women may become more productive and how women may better share in the proceeds of higher productivity.

C. SPECIAL AID CONCERNS

1. The Regional Approach

AID will approach its assistance to the eight states of the Sahel on a regional basis in the form of our participation in the work of CILSS and the Club du Sahel which together coordinate the Sahel development program by bringing Sahelians and donors together for the purpose of developing region-wide strategies and sector plans and to review development problems common to the region. As coordinating organizations, the CILSS and Club generally do not administer programs on their own or negotiate specific country projects. Rather, the specific projects that flow from this regionally coordinated planning process will normally be developed by each donor individually pursuant to bilateral agreements between donors and national authorities of the individual Sahelian states. Accordingly, most of AID's assistance to the Sahel will follow the normal programming practice of designing and implementing specific bilateral country projects.

However, the commonality of knowledge and understanding that is built into the overall CILSS-Club process can produce two results that reinforce a regional approach to development in the Sahel. First, the donors who participate as a group in the workings of the CILSS-Club tend to adopt similar or at least complementary assistance strategies and

sector priorities for the Sahel. This facilitates donor coordination in the planning of individual projects at the national level and enhances the opportunities for parallel financing in the same country among two or more donors. This pattern tends to get extended across the Sahel from one country to the next. Second, and perhaps more important, the Sahelian states and donors alike will increasingly examine the development problems and needs in the Sahel on a transnational basis. Many of the problems in one state are common to most of the region, and the efforts required to deal with them, though often undertaken physically in individual countries, require a "regional" investment for their economic efficiency. This regional investment may be undertaken by donors through a regional project framework or a bilateral project approach.

AID's regional project portfolio in the Sahel grew rapidly in the early years because it provided the means for AID's participation in the CILSS-Club planning process. The regional portfolio became the programming tool for AID's work on region-wide problems involving multi-donor planning. Several of the projects originally conceived as regional projects have been spun off as regular bilateral country activities. This is as it should be. Activities which remain in a regional category are those which involve assistance to regional organizations such as the Club, CILSS, AGRHYMET, the Sahel Institute and the river basin commissions, categorized as follows:

- River Basin Development - The development of the Sahel's international river systems are represented by organizations representing the user nations such as the Lake Chad

Basin Commission, the Commission for the Development of the Senegal River (OMVS), the Gambia River Basin Commission and the Niger River Commission. AID will assist these international commissions in concert with other donors, in formulating optimum strategies leading to development of the Sahel's river basins.

- Agriculture - Similar constraints and opportunities inherent in Sahelian agriculture suggest regional approaches in pursuit of regional food security. Hence AID will undertake activities in regional food crop protection to reduce pre- and post-harvest losses, in regional inland fisheries to further exploit this protein-rich sector, in the production of fertilizer, in weather monitoring and research to enhance local Sahelian agricultural productivity. Regional approaches are also possible in transport, communication and other areas related broadly to agricultural development.
- Institutional Support - AID will support multi-national institutions which serve to identify regional problems and solutions, including the Club du Sahel, CILSS and the Sahel Institute.
- Population - Demographic data collection and analysis efforts will be undertaken to provide the necessary information Sahel-wide in facilitating consideration of population planning measures.

AID's management of regional projects will be influenced by the character of the project and the specific arrangements developed by the Sahelians. In the case of the river basins, for example, the commissions are generally responsible for mainstream infrastructure development, with the member states responsible for downstream development or the broader economic planning and actions relative to actual development of the basin. The responsibility for managing AID assistance to the river basin commissions is assigned to a particular AID country mission where that responsibility is most appropriately handled.

The other major type of AID regional projects--the more conventional variety--involves those development concerns common to several of the Sahelian states for which consolidation of donor inputs and management is particularly desirable in order to avoid duplication of effort. The AGRHYMET regional project is one example. AID has developed a pattern for all projects of this type which defines a management system, relating it to the responsibilities of each bilateral field post where the project operates and to Washington. This pattern will be converted into a set of formal guidelines covering the responsibilities and roles of all of the project managers and AID mission directors concerned.

2. Absorptive Capacity

It has become clear during the CILSS-Club planning process that the Sahel's requirements for development assistance are much greater than its present ability to absorb such assistance productively. This problem is most evident with respect to programs that have a direct impact on basic human needs. Programs to increase small farmer production, for instance, are hampered by poorly trained extension agents,

the absence of farm-tested improved technologies, inadequate farm to market roads, poorly manufactured farm implements and inappropriate credit policies. Health, primary education and functional education programs are constrained by similar problems. This means that, before key basic human needs indicators can begin to show change, it will be necessary to undertake a large number of expensive often long-term programs that do not immediately improve the lives of the poor majority. Furthermore, in places like the Sahel, the absorptive capacity problem extends beyond strictly BHN programs. Programs to build and upgrade roads are limited by a shortage of trained personnel and funds needed to operate and maintain the equipment and to maintain the roads.

The major implication of the absorptive capacity problem is that AID and other donors must limit the amount of resources going to direct-impact programs until all of the prerequisites to the achievement of program objectives are in place. In strategy terms this means that for some time to come large proportions of U.S. assistance to the Sahel will have to go to institution-building, technical manpower training and economic infrastructure. This is not to say that the U.S. and other donors should not now be supporting direct-impact programs. The problem is to achieve a proper balance recognizing that there is both a short-run need to alleviate poverty and a longer-term need to remove basic constraints to major broad-based improvements.

The CILSS-Club framework provides the mechanism for coordinating donor assistance on the basis of shared knowledge of the Sahel's capacities and progress. This institutional apparatus is oriented to problem solving and provides a means for analyzing absorptive capacity on a global

basis. For example, CILSS is working with donors to assure adequate attention is given to the accelerated training of Sahelians in each sector area. Special commissions or working groups have been established to examine the problems, needs and optimum strategies in food grain production, marketing and pricing, controlled irrigation, recurrent costs and energy/reforestation. CILSS has established a Project Management and Analysis Unit to monitor CILSS-Club progress for the purpose of identifying common bottlenecks, and is developing a proposal to strengthen the various sector planning units of the Sahel governments. It will be AID policy to support and stimulate these and other efforts by the CILSS-Club in order that we may jointly come to grips with absorptive capacity constraints as they arise.

3. Recurrent Costs

The size and nature of the Sahel development program will result in large increases in recurrent costs that will exceed what can be financed by the Sahelian governments themselves in the near future. Major components of the program, including those that broaden access to social services which are not revenue generating, as well as those that build essential institutions and infrastructure, will not generate the revenues to pay their recurrent costs. Yet, most of these kinds of activities are critical first steps to achieving broad rural development objectives.

For donors there are two recurrent cost issues: first, in the short run the issue is whether and to what extent donors should finance recurrent costs upon formal project termination. The approach adopted by most donors is to include such operating costs in the external

assistance provided during the life of its projects on the assumption that host governments can assume those costs once the projects end. This assumption is now open to question. Second, in the long run, the issue is whether to fund the recurrent cost gap associated with the Sahel program as a whole. To help resolve this issue, the Club has undertaken a study to assess donors' options for meeting the recurrent costs of the global Sahel program. These options broadly include: changing the composition of the Sahel program to increase the proportion of revenue generating projects by de-emphasizing non-revenue generating BHN programs at least in the early years; undertaking only those BHN projects that have a capital-generating capacity built into them which adequately covers their recurrent costs; extending the life of the Sahel program beyond twenty years so as to lower annual recurrent cost requirements; and last, meeting the recurrent cost gap with external financing.

It will be AID policy to work jointly with Sahelians in dealing with the conclusions of the Club's study in a positive and creative manner. Accordingly, AID in each country will:

- Assess the current and planned AID program with respect to the nature and extent of the local operating costs financed by AID and by the host government annually through 1985.
- Select a minimum of two AID projects for the purpose of developing alternative methods or formulae for covering their recurrent requirements upon project termination.
- Share the results and generate review of the subject with the donor community as well as the host government.

- Examine each new project initially at the PID stage and in depth in the PP from the standpoint of its recurrent cost implications including the least cost approach to financing or otherwise meeting the recurrent requirements of the project.

4. West Africa Integration

In formulating the Sahel development program, it was recognized that the problems in developing the Sahel were of such enormity, and the task so long-term, that a special effort was required which would focus initially on the eight Sahelian states. The first phase of the Sahel development program therefore placed emphasis on the institutional and manpower preconditions to development of the Sahel's economic base. The long-range strategy introduces in its second phase the question of the Sahel's economic relationships with the West African coastal states and others. Thus there has been an awareness of the importance of this relationship but little emphasis placed upon it up to now.

At the same time there is a growing understanding between the Sahelian states and their neighbors which will, in time, lead to greater integration in the West Africa region. This is occurring through the cooperation of the various West Africa regional organizations which have various linkages to CILSS and the individual Sahelian states. Among these organizations are CEAO, ECOWAS, BOAD and the Entente Fund.

It is AID's view that regional integration is critical to the achievement of self-sustaining growth in the Sahel. Part of our regional development strategy, therefore, will be to assist regional organizations in their efforts to provide a better understanding of regional economic

linkages in West Africa and, when possible, strengthen those linkages to the benefit of both Sahelian and coastal countries. These linkages could include: the interrelationships of cash crop and traditional dryland agriculture; river basin development; trade in livestock and trade policies generally; transport and marketing channels; the issues of self-sufficiency and comparative advantage; finance, capital investment and capital flows; manpower training, formal education and labor migration.

5. Role of Women

It has been amply documented that women play crucial economic and social roles in Sahelian countries, especially in rural areas. However, they do not benefit proportionately from government services and development programs. Sahelian women have much less access to primary education than men, have a poorer health status, and do not receive as much training in the skills they need to perform their tasks more effectively. AID will address this problem primarily by including in all rural development and rural health projects special measures to address the special needs of women and to involve them more directly in the development process. This will involve: assuring that extension services orient more of their advice to women, including women in cooperatives and other village level organizations; making special efforts to develop and introduce labor-saving innovations in rural households; and expanding functional education related to family health care. One major constraint to providing more of these services to women is the almost total lack of technically-trained women in most rural areas. Institutions to train women as trainers in home economics, agricultural

practices, family health and other subjects of use to women need to be greatly improved. This will be emphasized by AID.

At a more general level AID will support efforts to document and analyze the role of women in the Sahel and the extent to which their needs are not being properly addressed. In this way AID could help to increase the attention given by Sahelian governments to the special problems and needs of women.

6. Food Aid

Food aid has played an important role in AID's development assistance for the Sahel. All Sahelian countries have received U.S. commodities under Title II emergency programs. As AID is able to shift away from food-for-relief to food-for-development in the Sahel, increasing attention will be given to linking food aid to Sahel development program agricultural and developmental objectives. In the short term, AID will experiment with both Title II and Title III programs to assess their adaptability to the special needs of the Sahel. Accordingly, Title III food-for-development programs are under consideration for Senegal, Mauritania and Cape Verde; and Title II Section 206 programs are planned for Upper Volta and Niger. Title I has proved inoperative in the Sahel because of the inherent financial burden.

AID will continue to supply Title II for use in direct nutrition programs targeted mainly to vulnerable groups, i.e., mothers and preschool children, and in food-for-work projects. Title II MCH programs administered largely by U.S. private voluntary organizations are an important vehicle not only for improving the nutrition of mothers and young children, but also valuable for transmitting health and nutritional education.

Over a broader front, it has long been thought that PL 480 Title II could be used to promote and finance improved food management in the form of grain reserves in the Sahelian countries. Experience in the early 1970's in Niger and Upper Volta was inconclusive, largely because the extended drought effectively precluded using PL 480 commodities to stabilize fluctuations in food supplies much less prices. In FY 1979 the United States approved under Title II 10,000 tons of sorghum to Chad to support an FAO-managed reserve scheme. Proceeds from the sale of the sorghum will finance the formation of farmer associations that will store grain for later sale to the national grain marketing board. In FY 1980, AID will undertake a Section 206 multi-year program for Upper Volta which provides 39,000 metric tons of grain. Proceeds from the sale of these commodities will be used to improve the ability and operating efficiency of the Office National des Céréales to buy, store and sell grain in the rural areas, and to make systematic diagnosis of the grain market system to determine how the private sector's stock and talents can best be used in a mixed system. AID will carefully monitor these programs to determine if they are replicable in other Sahelian countries. Grain stabilization efforts require not only commodities and technical assistance in physically managing stocks, but also economic analysis and careful programming to assure that production incentives and farm income are not adversely affected. Thus U.S. food aid, as well as assistance in grain marketing and storage, will be accompanied by technical assistance in both stocks management and analysis of the effects of the assistance on low-income producers and consumers.

7. Peace Corps and Intermediaries.

It will be AID policy to work toward full collaboration with the Peace Corps in the interest of maximizing the number of projects involving joint participation. Toward that end, AID mission directors and Peace Corps country directors will meet in the field at least quarterly; AID design teams will consult with Peace Corps overseas staff during the process of developing Project Papers for projects where Peace Corps might be able to play a role; and AID missions will solicit selected clearance by the Peace Corps on PIDs, CDSSs and ABSs.

In addition, it will be AID policy to draw upon private voluntary organizations (PVOs), Title XII universities, BIFAD and other intermediaries to the maximum possible extent to assist AID in the planning and implementation of AID activities. AID recognizes the special capability and experience of these organizations to undertake projects in specific areas and they will be given first consideration in carrying out projects that require a large degree of local participation.

8. Donor Assistance

It is estimated that the Sahel program would receive in excess of $1 billion annually from all sources for the first 10 years, with the United States providing approximately 10 percent of that amount. On this basis, the overall program would thus require approximately $10 to $15 billion with the U.S. share being $1 to $1.5 billion over this 10-year period, or $100-150 million per year.

Overall, the United States has financed well under 10 percent of the total Sahel program. In recent years, at least four donors have provided more aid than the U.S., and these have accounted for about

60 percent of total contributions. See Tables 6 and 7 on commitments to Sahelian countries by recipient and by donor.

France is the largest donor in the Sahel and much of its assistance is in the form of non-project technical assistance to ministries and other public sector organizations. France also provides substantial budget support to governments experiencing severe financial difficulties. The remainder of French aid is similar to that provided by the European Community (EC), i.e., cash crop production, agro-industries, and some infrastructure, mostly roads. The World Bank's program also includes cash crop and transport projects but its programs tend to be more oriented toward other aspects of rural development as well. World Bank transport projects, for example, include not only trunk roads but also road maintenance and rural roads, two types of activities that are critical to increasing agricultural production above subsistence level and opening up isolated areas. Also, the World Bank is undertaking major cereals and livestock projects. These projects are small-farmer oriented and are often fully integrated, i.e., they include not only extension but also research, training, marketing, feeder roads, credit and input supply. Since the drought, Saudi Arabia has become the third largest donor to the Sahel. The Saudi program is concentrated in heavy infrastructure and budget support rather than technical assistance. Other Arab donors such as Kuwait, the Arab Fund for Social and Economic Development and the OPEC Development Fund are also large donors and also tend to concentrate on infrastructure projects.

There is a good deal of complementarity in the programs of the various donors. Given the very low level of development in the Sahel

it is necessary that many different constraints be addressed at the same time. There is a need for infrastructure projects, institution building, rural development, export crop production and social services. Under such circumstances it is appropriate that different donors with different capabilities concentrate on those areas in which they have a comparative advantage. Where their capabilities overlap with AID's interests and capabilities, it will be AID policy to encourage joint or multi-donor participation and financing. This will apply particularly to projects in cereals and livestock production, forestry, agricultural research, integrated rural development and rural health.

Table 6

Commitments to the Sahelian Countries by Donor

(in millions of U.S. dollars)

RANK	1975			1976			1977			1978		
		$	%		$	%		$	%		$	%
1	FRANCE	178	23	FRANCE	212	19	FRANCE	185	18	FRANCE	232	18
2	GERMANY	86	11	EDF	149	13	EDF	129	13	EDF	170	14
3	IDA/IBRD	79	10	IDA/IBRD	134	12	S. ARABIA	122	12	CANADA	116	9
4	USAID	71	9	S. ARABIA	130	11	GERMANY	96	9	IDA/IBRD	103	8
5	EDF	62	8	GERMANY	96	9	USAID	85	8	GERMANY	95	8
6	CANADA	57	7	USAID	60	5	CANADA	83	8	USAID*	87	7
7	S. ARABIA	31	4	ADF	46	4	IDA/IBRD	64	6	ADF/ADB	73	6
8	KUWAIT	29 4	4	AFESD	42	4	UNDP	63	6	NETHERLANDS	64	5
9	ADF	26	3	CANADA	40	4	NETHERLANDS	42	4	S. ARABIA	52	4
10	BELGIUM	15	2	NETHERLANDS	38	3	OPEC SP. FUND	26	2	UNDP/OTHER UN	51	4
		634	83		947	86		895	85		1,043	83
	OTHER DONORS	129.3	17	OTHER DONORS	159.8	14	OTHER DONORS	154.9	15	OTHER DONORS	214	17
		763.3	100%		1,106.8	100%		1,049.9	100%		1,257	100%

* U.S. contributions to the Sahel in 1978 are based on the amount of funds appropriated to AID for the Sahel Development Program by the Foreign Assistance Act of FY 1978.

Table 7

Commitments to the Sahelian Countries by Recipient*

(in millions of U.S. dollars)

	1975	1976	1977	1978
CAPE VERDE	20.8	25.6	40.3	51.0
CHAD	70.6	116.2	96.5	170.7
GAMBIA	12.9	32.5	39.6	35.5
MALI	159.8	215.9	191.6	178.3
MAURITANIA	83.0	231.5	129.3	128.9
NIGER	106.9	189.7	128.1	176.8
SENEGAL	144.0	131.9	165.9	224.5
UPPER VOLTA	110.9	121.8	178.1	197.4
REGIONAL	54.4	41.7	80.5	93.9
TOTAL	763.3	1,106.8	1,049.9	1,257.0

*Includes Official Development Assistance (ODA) from DAC countries, multilateral sources, OPEC sources, and U.N. Agencies.