PN-AAT-910

UNCLASSIFIED

AGENCY FOR
INTERNATIONAL
DEVELOPMENT

SENEGAL

COUNTRY DEVELOPMENT STRATEGY STATEMENT

FY 82

BEST AVAILABLE

January 1980

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
WASHINGTON, D.C. 20523

UNCLASSIFIED

This strategy statement has been prepared by the AID field mission. It is prepared annually and used for planning purposes in the field and in Washington but is neither officially approved nor disapproved by AID/Washington. It does not represent official Agency policy.

****

THIS STRATEGY STATEMENT HAS BEEN PREPARED BY THE A.I.D. FIELD MISSION. IT IS PREPARED ANNUALLY AND USED FOR PLANNING PURPOSES IN THE FIELD AND IN WASHINGTON. IT DOES NOT REPRESENT OFFICIAL AGENCY POLICY.

****

****

****

****

****

******

****

**

*

Title page

Table of Contents

	Page
Introduction	1
PART I: SENEGAL TODAY: A SOCIO-ECONOMIC ANALYSIS	
A. The Many Faces of the Poor	2
B. The Economy in Overview	12
C. Basic Constraints and the Responses Required	16
1. Towards Economic Viability	16
2. The Deteriorating Resource Base	17
3. Depleted Energy Resources	18
4. Diminished Land Resources	19
5. Inadequate Health and Nutrition, Excessive Population	21
D. Senegal's Rural Based Development Strategy	23
1. The Diversification of Agriculture, Food Self-Reliance	23
2. Decentralization, Local Participation	26
3. Other Elements	
The Fifth Development Plan	28
Strengthened Regional Ties	29
External Assistance	31
Absorptive Capacity-Recurrent Costs	33
PART II: U.S. ASSISTANCE STRATEGY	
A. Overview of U.S. Activity in Senegal	35
B. Joint Assessment and Planning	39
C. USAID: The Interim Strategy	41
1. Program Goal	41
2. Priority Sectors and Regions	42
3. Links with other Donor Programs	43
4. Specific Program Objectives	
a. The Food/Nutrition Sector	45
b. The Health/Population Sector	51
c. Renewable Energy, Fuelwood	53
d. Management Strategy	54
PART III: ASSISTANCE PLANNING LEVEL	57
Annex	following page 58
Glossary	
Tables and Maps	

Introduction

Senegal enters the 1980's in serious economic straits, dependent upon a single crop, peanuts, for most of its revenues and hence hostage to the vagaries of world markets and Sahel climate alike. Characterized by the dramatic and deepening dichotomy inherited at Independence in 1960 between Dakar and the rural hinterlands, Senegal also suffers from the overcentralization of capital, skills and administrative resources. Soils in the northern and central growing areas deteriorate; meanwhile, the population grows, forests are cut, the rural exodus quickens.

Despite the gravity of the present predicament, Senegal's potential is also real and its realization increasingly urgent. Important areas exist of uncleared rainfed crop lands in the center and east of the country, and under-utilized river basins in both the north and south remain to be settled and put to work. Endowed with a well trained upper level management and favored with political stability, Senegal has lacked until recent years a systematic and sustained government concern with the rural areas.

The Great Drought of 1968-1973 marked the birth of this concern, a consciousness of the fundamental importance of the rural sector to the entire economy.which has since been transforming the policies of Government. Higher producer prices for the farmer and lower food subsidies for the urban dweller have led a range of changes towards diversification and decentralization. Reversing the directions pursued for seventy years before, the Senegalese Government may only begin to realize these new goals over the next two decades. The continued broad support by the international donor community, mobilized within the Club du Sahel framework following the Great Drought, will be indispensable to the achievement of these goals.

An important part of Senegal's promise as a viable state is that so long as Senegal's accustomed style of government prevails, coercion will not be

used to attain development objectives. Senegal's human rights record is excellent. The judiciary is strictly independent; there are no political prisoners. Since 1974, Senegal has had a multiparty political system, functioning today with four active parties, and a vigorous opposition press.

If for these reasons Senegal finds itself at a critical point of departure in the development of its rural areas, the USAID program is also at an important juncture. This year marks the end of the first major five year funding cycle, and the majority of projects are now fully funded. We believe it is an appropriate time to assess with the Government of Senegal our past efforts and to look ahead to the next program phase.

USAID/Senegal and the Government of Senegal therefore plan to undertake in 1980 a joint evaluation and planning process which will provide the basis for next year's Country Development Strategy Statement. While this year's document is thus an interim strategy, it nevertheless represents USAID's present policy and will serve as the touchstone for the joint assessment.

PART I: SENEGAL TODAY: A SOCIO-ECONOMIC ANALYSIS

A. The Many Faces of the Poor

The poor represent the great majority of Senegalese, both in urban areas and rural regions. For the 65% of Senegal's 5.5 million population which live in the country side, per capita GNP is less than $150 annually. At the same time, 75% of the one million persons inhabiting Greater Dakar in 1980 received an annual income below the $400 per capita poverty line, extrapolated from AID's measurement of "poor" in 1969 dollars.

The majority of Senegalese are poor because the country is poor, rather than because of gross distortions in the way that national wealth is distributed. Of the perhaps 30,000 inhabitants of Dakar who are classified as "upper class", by virtue of earning $15,000 or more per year, half are European or Lebanese,

the rest belonging to a small but growing number of Senegalese businessmen and professionals or to the top rank of government officials. Class and caste differences in rural areas are not of primary importance in economic terms. Nor can systematic corruption or bureaucratic inefficiencies be blamed for the economic impoverishment of the Senegalese population.

While landlessness is not yet characteristic of the poor in Senegal, the society is marked by seasonal unemployment and migration in search of work. Migratory flux and the breakdown of traditional social institutions is characteristic of this poor majority.

In-country migration, the flow of people into urban areas and between rural regions, is the result of differences in living standards and economic opportunity between the principal zones.

Lack of sufficient cash income forces people during the slack agricultural season (January through mid-May) to migrate from rural to urban areas where they join the ranks of the urban poor. Many of these seasonal migrants are now settling permanently in towns. Lack of cash income, educational opportunity and/or fertile land is also inducing farmers to migrate from less developed areas of Senegal to cash crop zones as hired laborers or as permanent settlers. This continued in-country migration has had a destabilizing impact on development and growth. Some areas now lack people to cultivate the fields at the same time as urban areas strain to absorb new migrants.

Social institutions, meanwhile, are more fluid and less well-defined than ever before. The old multi-generational extended family structures, responsible for agriculture and economic support, are breaking up as family members leave. As migrants take on new economic and social roles they tend to change their ethnic identities. Diola, for example, are Mandinka-ized when they move into Ziguinchor and become Muslims. Serer and Diola who migrate to Dakar adopt Wolof customs and

language.

This flux, while damaging to traditional structures, permits greater individual initiative. New ideas and knowledge move quickly between urban and rural areas. Some migrants go to other more developed areas of West Africa, and one of the hinterland ethnic groups (the Soninke), as we will see later on, have become migrant laborers in France.

Against this general background of movement and change development projects are designed to take account of the particular context of the principal economic zones which characterize the country. These are:

(a) the Cap Vert Peninsula, including Dakar;

(b) the Peanut Basin, inland from Dakar; and

(c) the peripheral, mostly non-commercial agricultural provinces, particularly the Senegal River Basin to the north (the Fleuve Region), the Casamance Basin to the south, Eastern Senegal, and the Sylvo-Pastoral zone (Ferlo) in the north-central part of Senegal. For a capsule summary of the analysis which follows, in addition to the maps, please also refer to Table II, at the conclusion of this paper.

1. The Cap Vert Peninsula, including Dakar, is the extreme western point of the African continent and has been in contact with Europe for over 500 years. It is today heavily urbanized. With 20% of Senegal's total population (and the majority of its urban population), Dakar produces 60% of GDP. Its population of one million persons is growing rapidly at the rate of 6% annually.

Three quarters of Dakar's population live at the survival line, earning $400 per year or less, as stated above, which covers food, clothing and lodging costs comparable to those in the United States. Most of this population cannot find salaried work and earn what they can as unsalaried artisans, watchmen, apprentices, street vendors, water carriers, errand runners, launderers, and domestic

servants to families who are themselves poor. The majority have no formal education, although school leavers also find that there are few jobs in Dakar even for people with training.

Women are among the poorest of the urban poor. In contrast to peasant women who usually have some independent income from their own plots, most urban women are housewives with no income at all. A 1976 study showed that about 85% of married women and 75% of divorced women did not work for a salary or regular income. Some young single women migrate seasonally or temporarily from rural areas to the city to work as domestics where they are likely to live in conditions of extreme poverty. Urban women who work tend to do so in the informal sector, as vegetable vendors, flower sellers, petty traders and in other jobs that earn very little, but their small incomes give them some financial independence and help their families to subsist. Those with a high school education may find work as secretaries, and a tiny minority who are University graduates have professional careers.

Despite the poverty of the great majority of persons who inhabit Dakar and its environs, the capital itself still offers more than the other principal zones of Senegal.

Education and health facilities are much better in Cap Vert. Cap Vert has nearly 70% of the employed college graduates in the country, including 73.2% of all doctors, and 81.6% of all dentists; two-thirds of the nation's midwives and one-third of other medical assistants work here. On the average, people in Cap Vert are better nourished than the rest of Senegal, with 2,500 calories per day versus an insufficient 2,070 calories in rural areas. These aggregate figures, however, do not reveal consumption patterns. The groups which suffer most from malnutrition and anaemia in rural areas -- small children, pregnant and lactating

women -- are likely to suffer from the same sort of malnutrition even in Cap Vert, and for the same reason - poverty.

2. The Peanut Basin, immediately inland from Dakar is one of the oldest areas, dating from the last century, of cash crop agriculture in West Africa. A large area encompassing the administrative regions of Thies, Sine Saloum, Diourbel and Louga, the Basin contains over 50% of Senegal's population and produces 80% of the peanut crop representing two-thirds of the nation's agricultural revenue. The Government had just begun to implement major agricultural reforms in the late 1960's when the catastrophic six-year Sahelian drought struck. The return of normal rains since 1974 has been irregular (rainfall in 1977 was less than in the worst year of the long drought), and the damage was so extensive that recovery will take several more years. Meanwhile, the population continued to grow and world wide inflation brought deteriorating terms of trade, so that real per capita incomes in the Basin have actually fallen. Fewer than 20% of children are in primary school and the daily caloric consumption is about 2100.

The Wolof ethnic group comprises about two-thirds of the total population of the Peanut Basin, and dominates the northern, central, and southeastern portions, from Saint-Louis to Thies and along the Dakar-Tambacounda railroad. Their approach to peanut cultivation has traditionally been a shifting, slash and burn agriculture, in which, as the population grows and land is exhausted, young men move out to settle on the expanding frontier.

The Serer ethnic group are more densely concentrated in the southwestern portion of the Basin, and comprise about one-third of the total. Having been hemmed in by Wolof expansion, the Serer have developed a more balanced system of rotational farming on smaller plots, using fallowing, cattle manure, and the acacia albida tree to ensure fertility. In the area around Fatik, however, over-population has become chronic with densities of 80-100 km^2. Fallowing is disappearing, yields

have declined, and out-migration is extensive. As fallow lands shrink, the traditional symbiotic relationship with Fulbe herdsmen is breaking down and the latter are being forced out. While this is a great hardship on the herders, it also deprives the Serer of milk, cattle manure for their fields, and occasional meat. The World Bank funded "New Lands" resettlement scheme south of Tambacounda has created a partial frontier outlet for the Serer, but the vast majority of out-migrants go to cities, particularly Dakar.

In the north the oldest Wolof cash cropping areas, along the Dakar-Saint-Louis railroad, are also experiencing soil exhaustion accompanied by high rates of out-migration. One small zone in the Louga area went over to desert during the recent drought, and has been abandoned by farmers and pastoralists alike.

The traditional work unit, in Wolof as in Serer areas, has been the extended family, cultivating communally the family's millet, maize, and niebe bean fields, while individual members earned cash from private peanut plots. As cash cropping has intensified, communal food fields have shrunk and in some places disappeared, replaced by individual peanut plots. The extended family is becoming fragmented in response to this tendency, as well as to western education, urban migration and a general liberalization of values and customs. Today, perhaps one half of the families in the Peanut Basin are single household compounds. The old versatility in switching cultivation from cash crop to food and back, according to market conditions, is still retained, however. As evidence, after two years of drought in the early Seventies, during which peanut producer prices were kept low in Senegal despite high world-market prices, small farmers en masse abandoned peanuts to plant food crops.

Another major institutional factor in the Basin are the Islamic brotherhoods, mainly Mourides and Tijanes. Because they are the largest non-governmental rural organizations, they are an important element in the success or failure of

agricultural policies and projects. The Government has often granted permission to brotherhoods to cultivate sylvo-pastoral reserve lands, using tightly organized disciples' work groups to clear and cultivate. Afterwards, the use-right to the land is generally assured the disciples, while ultimate control over the land tends to decentralize among members of the leading marabout (religious) families as they branch out.

Agricultural incomes and living conditions vary substantially in different areas of the Basin, depending upon rainfall, land fertility, and the availability of road, rail, water supply and marketing infrastructure. The variability and spacing of rains are chronic problems throughout the Basin. Rainfall is lowest, most erratic, and has the shortest season in the northern area, with 400-600 mm. and 30-45 days of rain in an average year. Rainfall increases to 600-800 mm. and 60 days in the central area, and it approaches 1,000 mm. and 65 days as one moves south and east into the frontier areas. Plot sizes average about one hectare in overpopulated areas to 2 1/2 hectares in the ox-plow equipped areas in the center and on the eastern frontier. Harvest incomes range from less than $80 annually in the drier north to as much as $400 in the well-equipped center and on the frontier.

Living conditions tend to be best along the two rail lines and the paved roads, where at least minimal water supply, electricity, transportation and consumer goods are available. In frontier areas settlers still have to dig their own wells and carry their harvest to the road in head loads or on burros.

3. The principal peripheral areas include the administrative regions of the Fleuve (Senegal River), Eastern Senegal, and the Casamance, as well as the Sylvo-Pastoral zone, where most of Senegal's cattle are concentrated. These areas contain 1.8 million people, or 30% of Senegal's population, and are the most undeveloped and least urbanized portions of Senegal. Largely because of their

distance from the capital, commercial farming here is at present less widespread than in the Peanut Basin. Per capita agricultural incomes are therefore lower. These zones, nevertheless, have considerable agricultural potential and their successful development represents Senegal's best hope for the future.

a. The Fleuve Region, bordering the Senegal River, has a population of 580,000, nearly 17% of which lives in Saint-Louis, the regional capital. Saint-Louis is a primarily administrative and commercial town and contains most of the regions's social services. The rural population has little access to schools, hospitals and modern services. Most farming is for subsistence even in the small irrigated perimeters along the River, although increasingly some of the vegetable output is being marketed nationally.

The Delta area around St. Louis is inhabited mainly by Wolof fishermen and by villagers under the auspices of Government's development agency, SAED. The farmers in the Delta, where per capita income is about $80 per year, combine the farming of paddy rice and vegetables with fishing, and herders pasture livestock there seasonally.

Tukulor comprise 60% of the population of the lower and middle Senegal Valley. This area, between Dagana and Matam, is suitable for double-cropping, once on rainfed lands, and again on the river flood plain after the flood waters of the Senegal River have receded. The traditional system of land tenure is still strong. At present, many peasants own few or no fields on the riverbanks and must rent them from the noble and fisherman families who effectively own most such land. Although they do much of the farm work, women do not own farming plots in this area. They cannot inherit land, only cows and other moveable goods. The traditional land tenure system is the subject of national legislation which, generally speaking, gives use-rights to the land to those who work it. The question of land rights, however, will become increasingly important as development proceeds along the Senegal River.

Because of the lack of economic opportunities, the Tukulor have migrated in massive numbers from the area, mostly to Cap Vert. Today, more than half of Senegal's Tukulor population lives in Dakar. Poorly educated, they become for the most part unskilled workers, street vendors or domestics.

The Upper Senegal Valley, in the area around Bakel, is inhabited mainly by Soninke. The Soninke have long favored the emigration of young adult men to France, where even though they earn at the bottom of European wage scales, they manage to send home up to half their pay. In some villages as many as 80% of the men aged 17-50 years are absent from the area, and they are tending to return home only late in life. Recently, France has been tightening its immigration laws, making work permits more difficult to hold or obtain. It is too early to be certain, however, what effect these restrictions are having on Soninke movements.

In the Senegal Valley as a whole, up to 30% of the active male population has emigrated. Although agricultural production has not shown an absolute decrease, since cash incomes are used to hire farm labor to supplement that of women and children, production in the area has stagnated. Except where irrigated development has occurred, returning migrants have no opportunity to reinvest and develop the local economy.

b. The Casamance Region in the south of Senegal has traditonally been isolated from the economic and administrative center, Dakar. This comparative isolation is in part the result of the long delays involved in crossing the Gambia River by ferry. Cultural and religious differences have also served to set the Region apart. The Casamance is therefore relatively underpopulated, and its 790,000 inhabitants are mostly subsistence farmers. Inadequate roads, bridges, potable water, and marketing infrastructure make the population vulnerable to seasonal malnutrition and endemic diseases. If, however, these characteristics of underdevelopment, accentuated by isolation, could be overcome, the Casamance

has perhaps the best development potential of any region in Senegal. Rainfall is the highest in the country, averaging 1,200-1,500 mm. per year. Due in part to extensive Catholic missions, school attendance is greater than in any other rural area of Senegal, with 50% of school age children in primary school.

The lower (or western) Casamance, which is the focus of a U.S. assistance program, is inhabited primarily by Diola. Diola society is individualistic and egalitarian. Women and men jointly cultivate rice on small holdings. The men prepare and dike the plots, while the women replant and tend the rice. During this later period, men traditionally earn additional cash from construction, fishing and palm wine making. The rice harvest is divided between men and women. The men feed their families during the rainy season while the wives provide for their families the remainder of the year. Both men and women may sell part of their rice crop for money once they have provided for their families.

There is a very heavy migration of young men and women to Dakar and to towns in the Casamance. In some areas as many as half the women aged 12-20 may emigrate. These migrants, many of whom do not return, seem to be motivated in part by their comparatively high level of education and by the lack of economic opportunities at home. This migration of the productive labor force out of the region has led to a drop in agricultural production.

To the east, the Mandinkas dominate the Middle Casamance, which is less urbanized and less densely settled. They grow millet, maize and, as a cash crop, peanuts. Mandinka land holdings are small and the returns commensurate. Those farmers who participate in the region's semi-mechanized peanut and rice farming schemes can have annual incomes as high as $200-300 per capita, higher than the national rural average. Most agricultural work is performed among the Mandinkas by women who have no control over any of the harvest.

Still further to the east, the Upper Casamance is sparsely populated,

primarily by sedentary Fulbe. The Fulbe combine livestock raising with millet and rice farming. Peanuts and cotton are grown for cash income. Per capita income has been rising as cotton production has spread. There is little migration to urban areas, but during the rains, men often migrate to the eastern Peanut Basin in a quest for cash as client farmers or harvest workers. Their wives and children plant and tend the fields in their absence. Like most other regions distant from Dakar, the Upper Casamance has little education and social services.

c. The Region of Eastern Senegal is, second to Cap Vert, the fastest growing part of Senegal (4.9% per year). Natural increase accounts for about 2.9% growth, and immigration from Casamance, Guinea, and Mali for another 2%. It is ethnically very diverse, as a result of these diverse immigration flows. Cash incomes derived from peanuts and, more recently, cotton can be higher in the few areas where roads and marketing structures exist than in the Peanut Basin, but educational and health services are as yet virtually non-existent.

d. The population of the Sylvo-Pastoral zone, last of Senegal's major areas, is 80% populated by semi-nomadic Fulbe cattle herders. Per capita income is very low, $30-80 per year. The herds provide milk and occasionally cattle for sale. The men pasture their cows in farmers' fields in an exchange for milk and manure as fertilizer for millet. Some Fulbe families cultivate their own millet on the edge of the river valley in the wet season. Part of the family then stays with the crops while the young men take the cattle elsewhere. The most regular income is earned by the women who sell milk and milk products. The money thus acquired belongs to the women, but they use it mostly to meet their family's needs. Few Fulbe of either sex go to school or have access to health services.

B. The Economy in Overview

Despite an apparent diversity of economic activity, Senegal still depends heavily on agriculture, and especially upon peanuts, for the national livelihood.

The most recent national income accounts available, those for 1976, show an apparently relatively well diversified economy: services 35.4%, agriculture 30.2%, industry 22.1% and Government 12.3%. Yet 65% of the population of Senegal rely on agriculture to make their living. Normally, peanuts are by far Senegal's largest earner of foreign exchange (55% of exports in 1976), although when world prices were exceptionally high in 1974 and 1975, phosphates accounted for as much as 27% of total exports. Peanut processing is Senegal's largest single industry, 23% of industrial production. A large part of Senegal's private service sector is either directly of indirectly based on peanuts.

Peanuts are produced, as the previous section has shown, in areas of low and variable rainfall and hence production is subject to wide fluctuation with adverse effects on income, employment, balance of payments, and public finances. Diversification into such other crops as rice, cotton, and corn is proving successful but is still limited. Exports have thus been heavily concentrated in two products, peanuts and phosphates, with limited production potential. Foreign private investment in Senegal has been discouraged in recent years by local wage rates which are high compared with labor productivity.

As a result, when combined with population increase, Senegal's per capita economic production is actually lower today than it was in 1960. There has been little increase in productivity at a time when demands to increase consumption are growing. This has led to a steady decline in domestic savings. In fact, 85% of public sector investment in Senegal during the last decade has been financed from abroad.

The problem is particularly serious in the public sector. The tax rate in Senegal is very high (almost 20% of GDP) and almost all revenues are utilized for recurrent expenditures. Surpluses budgeted for capital investments experience continuous short-falls. Consequently, targets for Government financing of

development outlays are rarely if ever met. The situation is aggravated by large deficits in the parastatal sector caused by low productivity, over-staffing, and high salaries. Thus, with Senegal's lack of determination up to the present time to curtail salaries, government services, and other current expenditures, the slow growth in revenues has left Senegal in a vulnerable position.

Just how vulnerable Senegal has been can be appreciated from the events of 1977, when rainfall was the lowest since Independence. Failure of the rains caused a 60% drop in peanut production and widespread food shortages in rural and urban areas. As a result, industrial production dropped 20%, led by a 58% decline for peanut processing. Export earnings were down 30% and overall GDP is estimated to have fallen by 15%. Food imports had to be increased at the same time to cover deficits in rural areas. The net result was a sharp increase in balance of payments and budget deficits, as well as increased foreign debts. Debt service payments will increase from 6% of export earnings in 1976 to an estimated 28% in 1980.

To cope with these and similar setbacks, Senegal has been able to cover its deficits through borrowings from the IMF compensatory facility and trust fund and through STABEX, the EEC-financed export stabilization program under the Lome Convention. The Government has also negotiated a $10.5 million stand-by agreement with the IMF, which came into effect in mid-1979, and has now reached agreement in principal on a new one. But the seriousness of the situation in 1977-1978, coming on top of the events of the Great Drought, has also led the Government of Senegal to make a thorough reassessment of macro-economic policies and long-term development goals. Today, Senegalese policy makers are acutely aware of their country's economic straits and are giving evidence of the will to take the matter in hand.

In his economy speech to the National Assembly in December, 1979, the Prime Minister laid out in blunt terms the lack of progress Senegal has made in

redressing its economy. He outlined the steps deemed necessary to continue this economic readjustment. The Prime Minister announced plans to limit the Government's budget increases to 10% a year and to increase revenues by 12.5% a year through 1985. Credit is to be strictly controlled, with credit directed to importation of goods directly related to increased production. Farm gate prices are to be allowed to continue to rise, at the same time as remaining consumer subsidies of food and housing are to be decreased. The Prime Minister declared that strict budgetary controls of parastatals will be enforced and that principal parastatals, especially the agricultural marketing agency ONCAD, will undergo reorganization and reform. Steps will be taken to control the number and salaries of civil servants and to increase user fees to cover the costs of certain government services. The government will seek to encourage exports. Although devaluation is not possible as long as Senegal is a member of the West African Monetary Union (UMOA), the government is considering the institution of selected export subsidies, amounting to a de facto devaluation. At the same time, imports will be limited with the goal of achieving a modest annual balance of payments surplus.

These measures, and others now under study, are designed to effect major economic readjustments in Senegal, reforms that many observers have felt long overdue. The government has shown the will to carry out these reforms and has the top-level managerial capability to formulate the policies necessary.

In those areas where Senegal has needed assistance it has been strongly supported by international institutions, particularly the IMF and World Bank. The bilateral donor community is also well aware of Senegal's present economic situation and is preparing to furnish support in what all agree will be a difficult, but necessary and feasible long-term undertaking.

C. Basic Constraints and the Responses Required

1. Towards Economic Viability

Given the political will to develop the rural areas, Senegal can become an economically viable country within twenty years. This belief, now shared with USAID/Senegal by much of the donor community, is based principally upon government and donor recognition of Senegal's agricultural potential which, until five years ago, was largely ignored: dryland potential in Eastern Senegal, the Middle and Upper Casamance, and (with better resource management) in the Peanut Basin, and irrigation potential in the Fleuve and Casamance. This promise is real but largely unrealized. Yet even now in years of average rainfall, Senegal is already self-sufficient in millet, the staple of the rural population, and is a food exporter in fish and meat. The time, though, when Senegal will become a net food exporter will depend upon when irrigated production comes fully on line.

In this effort to develop fully its productive base and to take its economic problems in hand, Senegal will draw upon the coordinated support of the donor community and other sources of credit, as well as upon local revenues generated by a growing industrial base. In the 1990's, earnings from Senegal's major, special quality iron ore deposits in Eastern Senegal will begin to provide capital for further agricultural development. Already proficient in the preparation of high-level personnel, Senegal's considerable education establishment is the object of reforms which will enable it to meet rural development needs at lower and middle levels, as well.

In the section which follows we present four fundamental constraints to Senegal's equitable growth, from its present condition towards that state of economic viability which is within Senegal's capacity to attain. Where there is a consensus on the general actions which must be taken, we include these. This

section leads us next to look at the main points of Senegalese strategy for dealing with these constraints, followed by a section which sets forth the outlines of USAID's interim plan to support and, where necessary, to supplement the Senegalese government's plan of action.

2. The Deteriorating Resource Base

Particularly in the oldest cultivated areas of the Peanut Basin, as shown previously, a rapidly growing population is placing considerable strain on Senegal's land and water resources, threatening the country's long-term productive capacity in the very areas where production and marketing infrastructure are best developed. There are danger signs elsewhere, as well. The clearing of sylvo-pastoral lands for cultivation, the increased pressure on rangelands from expanded herds, and the continued cutting of the forest at a rate which is greater than its annual growth all demonstrate that the delicate balance upon which sustained production depends is being disturbed. Senegal's efforts to increase agricultural production, improve nutrition and health, and otherwise to meet the basic human needs of its population are being undermined by these adverse developments. Actions must be taken now to prevent this resource depletion from reaching the point of acceleration it has elsewhere, as in Lesotho or Haiti.

Most observers would agree that primary emphasis must be placed on the environmental rehabilitation of the Peanut Basin. This should be basically a soil conservation and revegetation effort which would establish windbreaks, woodlots, live fencing and firebreaks. The further integration of livestock into farming practices also needs to be encouraged. In the Casamance region, attention needs to be directed towards the improved management of existing natural forest stands as well as towards the planting of woodlots and the introduction of sustainable systems of agro-forestry. In the northern Sylvo-Pastoral zone, integrated land management systems need to be developed which include livestock, agriculture,

and forest production along with bush fire control and revegetation efforts. Along the western coast to the north of Dakar, sand dune stabilization is important to protect the productive Niayes region.

The Government entirely concurs in this course of action but budgetary limitations are retarding progress.

3. Depleted Energy Resources

While world petroleum costs have more than quadrupled since 1974 and Senegal's fuel import bill has gone up five-fold, a more alarming development to the average Senegalese has been the rise in the price of charcoal and the greater difficulty he has encountered in securing an adequate supply of fuelwood. Firewood or charcoal is essential to the preparation of his food as well as for all other household energy needs.

Dakar consumes almost 220 million pounds of charcoal per year, 90% of Senegal's marketed supply. Dakar also accounts for 35% of the annual fuelwood consumption in Senegal. This enormous urban requirement of charcoal and fuelwood is additional to the consumption in rural areas. About a third of the supply needed to fill this demand comes from drought-affected areas. This cutting leads to increased soil erosion and fertility depletion. It is estimated that at present consumption rates, Senegal's forest capacity will be exhausted by the late 1990's.

Thus, for reasons both of fuel and of conservation, Senegal must expand and develop its forest resources in a variety of species of fast-growing, drought resistent trees. To supplement fuelwood as its prime energy source, Senegal is blessed with abundant sunlight and has encouraged the development of solar energy for pumps and village electricity. High costs have so far prevented replication of this technology. Along Senegal's northwestern coast, ample winds are available for the generation of energy. High costs have also curtailed this effort.

Conservation of energy must also play a major role in any national energy program. Two means already under study in Senegal are more efficient wood stoves and more efficient practices to produce charcoal.

4. Diminished Land Resources

In the same measure, as soils are depleted and forests cut back indiscriminately for fuelwood, Senegal's productive land capacity is directly diminished. Conservation measures, indicated in the previous two sections, represent a first order of correction. An obvious second and parallel policy direction is bringing Senegal's considerable remaining land area into productive use. Present indications are that irrigation practices will account for the better part of this task.

Although it is still possible that an improved variety of millet may be developed, better able to produce under adverse climatic conditions, there appears to be no major technological breakthrough in sight for Senegal's dryland agriculture. Without improved varieties, the World Bank estimates that Senegal's investment at present levels of technology in dryland agriculture will begin to show diminishing returns in the early 1990's, even if lands in Central and Eastern Senegal are brought under cultivation. After that time, dryland production increases will only be achieved by a more capital intensive technology. In the long-term, therefore, Senegal's growth is dependent on irrigation practices.

Senegal has over 250,000 hectares which, according to IBRD estimates, could be brought into irrigated production. These include 200,000 ha. in the Senegal River Basin and 50,000 ha. in the Casamance.

The costs of irrigation will be large. The absolute minimum estimate for the two dams on the Senegal River is $600 million. The cost of the secondary infrastructure and resources needed in addition to put all the potential land in the region under cultivation could be double that cost. But the returns in terms

of drought resistent agricultural development in Senegal, and for the wider Sahel Region, are also equally high.

Even though the rates of returns will be low in the initial phase, the World Bank lists five reasons why investment in irrigation should not be postponed.

(1) Differences between the rates of return of dryland and irrigated projects are often smaller in practice than they are in theory. This is due to the large uncertainty attached to dryland investment as a result of poor climatic conditions and variable world markets.

(2) Returns on dryland agriculture in Senegal are expected to fall in the next decade, at the same time as returns on irrigation will probably rise. Given the lead time required to reap returns in irrigated projects, work on them should begin now to offset the anticipated decline in the growth of dryland agriculture.

(3) Irrigated agriculture, in contrast to export-oriented industry and other growth options, promises to reduce the urban-rural income gap, while also stemming the migration from rural to urban areas and increasing demand for domestic products.

(4) Irrigation should reduce the impact of periodic Sahelian drought on Senegal's population.

(5) By beginning irrigation investment now, Senegal should be able to stretch the program of investment over a greater period of time. Greater time would allow more opportunity to train farmers in irrigation techniques and to accustom the populations to the fundamental changes which irrigated production entails.

The decision to proceed with irrigation has, in any event, now been taken. The Senegalese Government has agreed with its OMVS partners and with interested donors to begin construction of the first of the two dams, that at

Diama near Saint Louis. USAID/Senegal's major concern henceforth will be to see that increased production brings a maximum return to small farmers and to the poorest of the rural poor.

5. Inadequate Health and Nutrition, Excessive Population

As long as Senegal's nutritional and basic health problems are not specifically addressed, Senegal's development effort will be retarded due to the enormous cost in reduced labor productivity and increased human suffering. While health needs tend to be well-identified, nutrition deficiencies are less well accounted for.

A major problem in Senegal appears to be generalized protein-caloric malnutrition (PCM). As the above social analysis showed, overall daily caloric intake in the rural areas is 2,070, a deficit of about 300 by international standards. People in urban areas average nearly 2,500 calories per day, a figure, however, which entirely ignores actual consumption levels over different seasons. The most vulnerable groups, children under five years and pregnant and lactating women, are shown to be well below acceptable standards. Children under five, for example, receive only between 70-74% of the average needed calories for optimal growth. The World Bank estimates that half of Senegalese children suffer second or third degree protein-calorie malnutrition. Adult women nearly meet the minimum daily requirement, but pregnancy or lactation creates a caloric shortfall of 12-18% leading to low birth weights, inadequate lactation, and infant morbidity and mortality.

During the soudure, the planting and pre-harvest season of June-October, there is a sharp drop in food availability for all age groups throughout Senegal. Aggregate caloric intake drops off by 10-15%. There is a sharp rise in infection and disease during the season, especially in the Casamance. Infant mortality and morbidity sharply increase.

To effectively come to grips with the nutrition question in Senegal, attention must be paid to the entire food production - health - nutrition chain. Nutrition must be recognized as a primary ingredient in all food production and family health projects. Nutrition is the direct link between these projects and the improvement of the living standards of the majority of Senegalese. The Government of Senegal has begun to devote attention to this issue in its Food Investment Strategy, discussed in the next section.

In the meantime, linked closely with low health and nutrition standards, the sheer numbers of Senegalese continue to grow at rates exceeding the people's capacity to substantially improve their quality of life overall. Senegal's population is currently estimated at over 5.5 million, increasing at a rate of over 3% and possibly as high as 3.3% per annum. Based on the 1976 census figures, as well as on other recent studies and estimates, the crude birth rate is believed to be close to 50 per thousand and the crude death rate about 20 per thousand. Life expectancy at birth is around 42 years. Almost 45% of the population is under fifteen years of age.

Previous planning for Senegal's economic development, including food requirements and social service demands, appear to have consistently under-estimated the dimensions of population growth. Available indicators suggest that the country faces a significant population problem over the coming years.

Government planners will need to project demographic scenarios for Senegal over the next 30-40 years in order to calculate some balance between rates of population growth, productivity and social services. As noted by the Senegambian Migration Study (1980), the application of family planning practices over the next 10-40 years will mean the difference in Senegal between Asian levels of overpopulation and the possibility of balanced production/consumption patterns.

Yet, as the study concludes:

> "Family planning alone is neither an immediate answer nor a long-term panacea. It is not an immediate answer because of clearly forseeable delays before it can have any nationwide statistical impact... It is not a panacea, because it has to be accompanied by economic development... If one has little control over other life chances, there is little incentive to control reproduction."

D. Senegal's Rural Based Development Strategy

The 1968-1973 Drought, reinforced by that of 1977, brought Senegalese planners and officials to recognize and accept that prospects for the significant growth of the Senegalese economy will depend fundamentally upon the broad development of the rural sector, including food production.

In formulating a strategy to deal with the primary constraints blocking growth in the rural areas, the Government of Senegal has had to come to terms with two of the country's most important colonial legacies. These are practices which have been followed since the early 1900's and carried forward into the Independence era. The first of this practice is the monocrop economy, or overdependence upon peanuts for the bulk of family and national revenues. The second is the overconcentration of goods, services and controls in the capital, Dakar.

Since 1974, and especially in the last three years, the government has undertaken a number of policy changes to remove the basic constraints to rural growth and to employ the remedial actions which, together with the constraints, were outlined in the previous section of this paper. Until the December, 1979 speech of the Prime Minister, already cited, these changes had not been formalized in any single declaration. The new policies, however, have mapped out two broad avenues of attack upon the constraints to rural growth.

1. The Diversification of Agriculture, including Food Self-reliance

The first of these include measures to reduce the pivotal role of peanuts

by increasing the production of other non-industrial goods. Unavoidably, given Senegal's extensive prior investments, peanuts will continue for the foreseeable future to be the country's principal cash crop. Nor is there anything intrinsically wrong with this state of affairs. It is the degree of their reliance upon peanuts, not the crop itself, which the Senegalese have come to question. The costs to the economy of even a single year's drought, as happened in 1977, have proven unacceptable. Also, the number of close substitutes produced elsewhere to peanut oil, notably soybean, palm and sunflower oils, have made Senegalese leaders apprehensive, since the returns which peanuts may earn on world markets, even in good years, are no longer assured.

The crop diversification program which the government plans to undertake does not involve the replacement of peanuts, millet, and other crops with new ones. Rather, it will entail the addition of new crops in expanded production areas, primarily outside of the Peanut Basin.

Diversification in Senegal will also mean a multi-faceted approach, contrary to grand schemes and campaigns elsewhere which have focused entirely upon a single crop, technique, or region.

Specifically, diversification means for the north irrigated rice, vegetables, wheat and sugar production. In the central zone, diversification entails edible (HPS) peanuts, cowpeas and millet, and the integration of livestock into farming practices. In the east, efforts have been made to increase cotton, corn and upland rice production. In the Casamance, attention is being given to paddy rice, both swamp and upland, and to cotton, tropical fruits, peanuts and corn.

Senegal's increased concern over the past decade with its people's ability to feed themselves constitutes an important impetus behind the diversification program. The urban sector's heavy and expensive dependence upon imported food, especially rice and wheat, has persisted since the colonial period.

Increasingly, however, rising food import costs, driven by higher world prices as well as the rising demand of a rapidly growing urban population, has made this old pattern unworkable.

Senegal's general program of food self-reliance was elaborated in the Food Investment Strategy (1976), which has since been incorporated into government planning policy. The Food Investment Strategy calls emphatically for a reduction of food imports, finding it ironic that Senegal should be "an essentially agricultural country, more than a third of whose imports are food products, of which over 40 percent are cereals." Consequently, with a strong awareness of nutrition factors, the program aims to reduce food imports in three principal ways: (a) by substituting local products for rice and wheat in the urban diet; (b) by increasing the production of dryland millet and (c) by increasing the production of irrigated rice in the Fleuve and Casamance. Domestic rice production is an essential part of the food self-reliance program.

In this regard, it is important to note the number of questions which have been raised about the economic viability of rice production in Senegal. At the present time domestic rice production costs exceed the cost of imported rice. Whereas the cost of the rice which Senegal imports is low, since the rice is low quality 80-100% broken chips, domestic production costs are high. This is due to the high cost of inputs, to limited economies of scale, to underutilized milling capacity and to high transportation costs. Most studies on this question, however, have concentrated on capital-intensive rice in the Delta area of the Senegal River, where production has been notably inefficient. As rice production increases, it is reasonable to expect that greater efficiency should result from a better use of milling facilities, from greater economies of scale, and from the effect of the learning curve on farmers newly introduced to irrigated practices. These factors should significantly lower the production costs of locally produced

rice, making it more competitive with imported varieties.

Finally, there is the increased attention being paid to Senegal's fish resources. The introduction during the Sixties and Seventies of outboard motors for fishing dug-outs has allowed these small boats to reach the better fishing areas farther off-shore, and consequently has revolutionized the traditional sector. Catches have jumped from an annual average of 80,000 tons to 270,000 tons in the mid-Seventies. Senegal's total annual fish harvest, all means included, was 400,000 tons by 1979.

2. Decentralization, including Local Participation

In the course of planning the greatly expanded role of the rural sector, the Government of Senegal has seen clearly the limitations of the Dakar-centered apparatus at its disposal. Along with diversification, therefore, the second series of reforms which this government, like Tanzania, Togo and others, has undertaken seeks to reinforce measures to combat basic rural constraints by the decentralization of the state's administrative, delivery, and marketing systems.

The government first began the process of administrative decentralization with measures designed to increase local level participation through community councils.

Beginning in the early Seventies, the government began progressively to turn over substantial powers to local level "Communautés rurales" which now exist in six of Senegal's eight regions. A rural community is made up of the villages in a small area which come together to elect a council, endowed with power to decide upon local projects and to commit local taxes in their support. The small budgets are due to be increased, but even now the financial independence of the councils permits rural communities to undertake projects which have meaning

to them and which are an obvious source of local pride. These projects usually have to do with improved water, health stations, and crop production and processing.

With the start of this administrative reform, the government confronted blockages to greater agriculture production, and proposed measures to conserve resources in old agricultural zones and to open new areas. Towards these ends, the government has established Regional Development Agencies (RDA's) in five important crop and livestock zones. The RDA's have begun to take over from the central ministries the responsibility for directing the development of agriculture production, including provision of agricultural inputs, credit, training, and extension services to farmers. Such organizations in Senegal enjoy a reasonable degree of autonomy that enables them to operate to some extent outside the cumbersome financial and procurement procedures of central government. The extent to which these parastatals themselves, as they mature, will come to emulate the worst features of the bureaucracy which they have replaced, raises a potentially important issue for U.S. programs. But for the time, at least, the RDA's generally represent a marked improvement over central controls. Of the five major Regional Development Agencies (SODEVA, SAED, SOMIVAC, SODESP, and SODEFITEX), one or another of AID's projects deal directly with all but SODEFITEX (see glossary).

Most recently, and in conjunction with both aforementioned reforms, the government has embarked upon a sweeping reform of the farmers' cooperative movement.

Senegalese cooperatives were first set up as agents for central government to supply production inputs to peanut farmers and to market their produce. This role was modified in the mid-1970's to increase attention to food crops (principally millet). New reforms will regroup cooperatives into larger, more viable units more closely linked to the farmers and the rural communities.

The cooperative reform, like the administrative reform, is to be implemented region by region, beginning in the Thies and Diourbel areas served by SODEVA. The reform will play a fundamental role in guaranteeing that the farmer receives his full share of the benefits to be derived from the new, higher farmgate prices. The reform is also designed to remove the serious bottlenecks which have impeded the timely supply of fertilizers, seeds, credit, and other inputs. At the same time it is intended to encourage greater local participation and control of services by the farmers themselves, thus rendering the services more effective.

Finally, in the general tenor of decentralization in support of the rural sector, there has been a tendency in recent speeches by President Senghor and his Prime Minister to encourage the Senegalese private sector. Underlying this is the government's real concern to improve the management of private and public firms and to increase investment in both public and private sectors. Ways in which these aims can be met and private sector energies stimulated for on and off-farm production and employment, are subjects which USAID/Senegal will wish to consider with the government as part of our joint program assessment and planning process.

The Fifth Development Plan

Senegal's national development plan is a fair guide to the priorities, or preferences, which shape the government's rural development strategy. With reliance upon external sources for 85% of the development budget, the Plan should be considered primarily as a prospectus for donor financing. Nevertheless, Senegal's Fifth Plan (1977-1981) goes beyond previous plans in developing a hierarchy of government priorities, not only within but between sectors, as well. The productive sectors of agriculture and industry are given highest priority.

While planned total investment in the agricultural sector has risen between the Fourth and Fifth Plans, to 27% of the total, there has been a shift in planning levels within the sector. The sub-sectors which have increased are fisheries (from 14% to 26%), livestock (from 7% to 14%), and forestry (from 4% to 11%). The crop production sub-sector, however, has dropped from 48% to 41% of the total agriculture sector. The majority (56%) of investment in crop production is designated for irrigation, divided between the Fleuve (three-fifths) and the Casamance (two-thirds). Most investments in dry-land agriculture, meanwhile, are intended for the Casamance and for the further development of extension and animation work in the Peanut Basin. Most planned investment in livestock will be directed towards cattle production in the Sylvo-Pastoral (Ferlo) zone and in the eastern area of Senegal, including Bakel. About 40% of forestry investment is planned for the environmental protection of the Sylvo-Pastoral zone and coastal dunes. Another 20% of forestry investment is indicated for firewood production and bush fire control.

Strengthened Regional Ties

To succeed in its plans to expand irrigated agriculture, especially in the Fleuve Region, as well as to provide larger markets for diversified production of the sort intended, Senegal recognizes that it must strengthen and expand already existing regional ties.

Many Senegalese development programs have significant regional implications. Most evident in this regard is river basin development. Two regional organizations have been established for some time and are responsible for substantial progress. These are the OMVS and OMVG, responsible for development of the Senegal and Gambia river basins, respectively. These organizations direct the planning of multi-purpose development projects (electricity, irrigation and transport) associated with the two rivers, and serve as forums for resolving the

conflicting interests of all parties concerned, including those of interested donors. In addition, the OMVS and OMVG are responsible for creating ancillary institutions and for carrying out training programs on technical and administrative aspects of river basin development. As has been demonstrated repeatedly in other parts of the world, sound river basin development cannot occur without effective regional organizations.

In the trade area, regionalism is also much in Senegal's interests. Obvious complementarities exist, as between the extensive livestock production in Mauritania and more intensive cereals production in Senegal. Although it is clearly in Mauritania's interest to be as self-sufficient in foodgrains as possible, cost considerations at some point will induce Mauritania to look to Senegal for a certain percentage of its total food needs. A similar relationship exists between Senegal and Mali. Both countries produce the same export crops although the returns to Mali are much lower because it is remote and landlocked. Consequently, it could benefit both countries in the long-term for Mali to concentrate on foodgrain production for export to Senegal, while Senegal produces other crops for export on world markets.

Encouraging the increased integration of West African economies in trade, employment and other ways, are the two economic groupings, CEAO and ECOWAS. Most Francophone West African countries, including Senegal, belong in addition to the West African Monetary Union. By providing a common currency and other international trade services, this union greatly facilitates commerce between member countries. Senegal stands to benefit from these trade promoting organizations primarily with respect to the Ivory Coast and Nigeria, both of which are experiencing rapid economic growth. Not only are their markets therefore increasing, but their wages and salaries are soon expected to exceed those of Senegal's, making investment in Senegalese industry comparatively more attractive.

External Assistance for Capital and Recurrent Costs

The sustained support of the donor community is the final, and absolutely critical, factor in the government's strategy to develop Senegal's rural sector over the next two decades.

Senegal has been relatively successful in obtaining foreign donor assistance since the 1968-1973 Drought. Donor flows, including U.S. assistance, dramatically increased to Senegal and other Sahelian countries in response to the natural disaster. These flows have grown steadily since, as rational program approaches to the long-term development needs of the area have been worked out between donors and Sahelian countries in the context of the Club du Sahel. As donors and Sahel recipients joined together following the Drought to shape a long-term, regional development response, Senegal received aid commitments totalling $167.4 million in 1975 and $194.8 million in 1976. This is more than $33 and $38 per capita fo the two years, respectively.

Senegal's principal benefactor, of course, is France, followed by the European Community, the World Bank, Canada, the United Nations agencies, Germany, various OPEC countries, and the United States which today represents about 20% of total commitments. While France's aid commitment has increased 15% in the six year period 1973-1978, its percentage of total aid fell during the same period from 40% to 31%. On an actual disbursement basis, however, French aid has remained steady at about 46% of total annual assistance.

The sum and direction of the major donors' assistance to Senegal, presented in Tables III and IV, can be briefly summarized as follows:

- France has directed its assistance ($54.7 million disbursed in 1977) into the maintenance and expansion of key infrastructure and institutions. One-half of the French grant aid goes to support Senegal's education system. France also provides major personnel support for the operation of government

administration and services.

- The European Development Fund, with disbursements of $10.2 million in 1977, accounts for about 14% of donor assistance. The FED has undertaken a number of projects in road building and in agriculture diversification, including HPS peanuts, cotton, and vegetables. With the French, the FED is financing a Free Trade Zone near Dakar.

- The World Bank, averaging about $10 million annually, provides about 10% of aid to Senegal. IBRD loans have been directed towards land resettlement, agricultural development, rural roads, tourism, education reform, and institutional development (ONCAD, SODEVA).

- Canadian assistance, at slightly above $6 million in 1977, represents 5% of total aid disbursements. Canada contributes to fisheries, the development of a university-level technical school, agricultural research, forestry, civil aviation and health care.

- West Germany, accounting for 7% of total disbursements in 1977, has also carried out a number of large-scale programs in agricultural development and tourism, and is a major contributor to the OMVS infrastructural financing.

Other donors include the OPEC countries which have provided funds for highway construction and which have made major commitments for development in the Casamance. These funds are still awaiting release. China has also provided some assistance in rice and vegetable culture in the Fleuve and Casamance.

In addition, Senegal has been the world's major beneficiary of the STABEX fund established under the Lomé I Convention and continued under Lomé II. Senegal received $82.9 million in the period 1975-1978 as compensation for losses on peanut exports.

The focus of grant assistance to Senegal has shifted significantly since 1973, when some 60% of assistance went to education and human resource development and only 11% to agricultural development. Since then, funds directed towards education development have increased about 22% a year while agricultural development assistance has increased by 75% a year. By 1978, donor assistance for agricultural development had increased to 34% of the total, while funds for educational development had dropped to 36%.

Loan assistance from external sources is difficult to measure precisely. According to Ministry of Plan figures, financing of the Fourth-Year Plan was achieved as follows: 27.8% grants, 26.4% concessionary loans (interest of 0 to 2%, repayment period of 20 to 50 years), 31.3% medium interest loans (interest about 12%), and 14.5% loans at commercial rates.

The Question of Absorptive Capacity, including Recurrent Costs

Although Senegal's needs for foreign assistance are great, there are limits to the amount which the country can effectively utilize in the short and medium term. One important limitation is the lack of a data base required for the design of effective programs, particularly in the agriculture sector where key technical and socio-economic factors essential to improvements in irrigated and dryland farming are not fully understood. As a consequence, many projects in these sectors must be introduced in phases to allow for a determination as work proceeds of the approaches which will prove most effective.

A second important limitation which affects all sectors is the weakness of Senegalese middle (as distinct from top-level) management. The implementation of development projects is behind schedule in most sectors, and many projects are not achieving their desired objectives. While not constituting, in our view, a fundamental constraint to development in Senegal, this situation does require

that aid to Senegal be accompanied by intensive training and institutional development, with a special view to organization and management. The Government is acutely aware of this problem and is taking steps, as we have seen, to improve implementation and efficiency in the public sector.

Public sector inefficiencies, combined with Senegal's no-growth economic position, come together to produce what is perhaps the greatest limitation to the amount of external assistance which Senegal can profitably absorb. Lack of revenues to cover the recurrent costs of new and expanded programs in the public sector is an important limitation. Although the government is determined to control bureaucratic expansion, to eliminate inefficiencies, and to shift the costs of services to the beneficiaries where possible, the long-term solution to the recurrent cost problem lies in the effectiveness of the development activities themselves. As the overall program leads to economic growth, increased resources can be tapped to finance expanded programs. The crux of the problem facing Senegal and other Sahelian countries, however, is that many necessary development interventions are institution building and infrastructure development activities which are prerequisites to increases in production but do not themselves generate revenues. Irrigation measures and resource conservation programs are examples for Senegal of activities which will require major expenditures over long periods of time before significant increases in production can be achieved.

The development program in Senegal is certain, therefore, to involve a sizeable recurrent cost gap. These costs must be minimized if they are not to constitute an excessive drain on government resources and on donor funds needed for essential new or expanded development activities.

In addressing the recurrent cost problem, USAID/Senegal acknowledges the government's real need for recurrent cost financing but seeks to keep recurrent costs to a minimum level consistent with Senegal's long-term interests. When

designing or re-designing projects we will continue to work closely with the government and with other donors to assess the recurrent cost implications and to identify all possible means of reducing them. The various possibilities for funding recurrent cost gaps, including the use of Title III monies for this purpose, will be carefully analyzed. When it appears that a new project would create a large recurrent cost burden on the government's treasury over a long period of time, the project will be undertaken only if (a) it is considered essential to the country's long-term development, and (b) the project cannot be postponed without seriously affecting Senegal's overall development.

It is essential that Senegal's major donors be aware of the recurrent cost problem so that no given donor is obliged to assume the recurrent costs of another's project in the event that the Government of Senegal cannot assume them. Under Club du Sahel/CILSS auspices, a general study of the recurrent cost problem is nearing completion. Discussion of this report should serve to alert all parties to the issue. Close coordination of all donors with each other and with Senegal's Ministry of Finance and Ministry of Plan will be essential in arriving at an equitable sharing of recurrent costs on a case by case basis.

II. U.S. ASSISTANCE STRATEGY

A. Overview of the Total U.S. Activity in Senegal

Given extremely limited trade and investment opportunities for the U.S. in Senegal, the A.I.D. Program has represented the leading form of U.S. economic activity in the country (see Map "A.I.D. Programs in Senegal"). The A.I.D. development program in Senegal has built up rapidly over the past five years, moving from that of a minor contributor to one today which accounts for 20% of total donor activity. In recognition of both the comparative size and rapid growth of the A.I.D. program, the U.S. and the Government of Senegal have agreed to undertake

in 1980 a joint evaluation and planning effort, which will consider present and future A.I.D. activities. We discuss this undertaking below in greater detail.

With this evaluation in view, the present document sets forth the general plan which USAID/Senegal expects to follow over the next five years, including both the size and substance of sector programs. Although this interim strategy will be subject to correction in the coming months, the overall purpose of the A.I.D. presence in Senegal will not change, namely to support and where necessary to supplement the Government of Senegal's own strategy to remove the major constraints to equitable growth in the rural areas.

While A.I.D. is the leading U.S. agency in Senegal in dollar amounts, it is by no means the only important one. Table V presents a summary of U.S. assistance instruments, by sector, for FY 1980.

Peace Corps/Senegal, with approximately 100 volunteers, has budgeted $1,400,000 in FY 1980. The Ambassador's Self-Help Fund, which supports volunteers' rural work with small grants, allocates about $75,000 per year.

The major U.S. Private Voluntary Organization in Senegal is Catholic Relief Services whose budget in FY 1979, in addition to its Title II distribution, was $499,000. Other PVO's active in Senegal are YMCA, AFRICARE, the National Council of Negro Women, World Vision, and various Christian missions.

Senegal also receives two Fulbright professors and a modest scholarship and travel grant program managed by USICA.

The only recent U.S. private venture in Senegal has been the opening and expansion of a branch office of Citibank in Dakar. Citibank has helped organize some major loans to the Government of Senegal, principally in the field of road construction and counterpart funds to support other donor activities.

The largest portion of financing for the U.S. assistance program in Senegal will continue to come from dollars directly appropriated to A.I.D. for

the Sahel Development Program (SDP). Conscious, however, of the budget limitations within this appropriation, USAID/Senegal will make maximum use of those other accounts permitted under the SDP legislation and Congressional intent.

PL 480 Title II programs averaging approximately $6 million per year will be incorporated more directly within the overall nutrition/health strategy of the USAID and the Government. The first step towards this end is the attempt, taken in preparing the present document, to trace the relationship between nutrition and other principal concerns in Senegal, especially agricultural production and health. The reorientation of this Title II program to derive a greater development impact will require time, since the current beneficiaries have been receiving commodities over an extended period and would be unduly hurt if supplies were cut off without warning.

The Title III program provides a substantial resource in support of AID development objectives in Senegal, notably in food production, resource conservation, national agricultural policy, and the development of human resources for the rural sector.

The creation of the Institute for Scientific and Technical Cooperation is expected to provide important linkages between the professional and scientific community in Senegal and key U.S. research and planning institutions. The Secretariat for Scientific and Technical Research (SERST) in Senegal is looking for substantial institutional support from the U.S. scientific community for the long-term development of Senegal's capacities to undertake its own research and scientific planning. These linkages will be encouraged by the USAID and, wherever possible, fostered by participant training programs in order to expose SERST and other government scientific agencies to U.S. expertise and resources.

The prospect for utilization of OPIC loan guarantees is at present premature. However, as development proceeds in the Senegal River Basin and the

Casamance, investment opportunities may present themselves in both agribusiness and service industries. A program to inform potential U.S. investors of development in this area will be sought through the African-American Chamber of Commerce headquartered in New York City.

The USAID views as one of its principal program responsibilities the location of resources within the IDCA community, especially those outside of the Africa Bureau. Hence, personnel from the Development Services Bureau, PPC, and from IDCA itself are being utilized in the planning and evaluation of USAID programs.

Housing Investment Guarantees will be explored for the development of sites and services for new villages which will be created as a result of massive development programs currently being planned for the Senegal River Basin.

Direct assistance is also being successfully sought from such organizations as the African Development Bank which has a grant from A.I.D. for project feasibility studies in the Sahel. In this regard, the USAID and its OMVS office are seeking to secure approximately $600,000 currently unprogrammed from the A.I.D. grant. These funds would be utilized for the design of a feeder road system in support of the Senegal River Basin development program.

The utilization of PVO's and Peace Corps in the implementation of certain categories of A.I.D. activities is being considered. The policy for use of these two sources of personnel for program management will be further refined and will be extensively discussed with the Government during the joint assessment of A.I.D. activities currently being undertaken.

As discussed earlier, the A.I.D. program in Senegal must be seen in context with the work of other donors and also with the wider regional activities with which Senegal is involved. As the principal pole of Senegambia, including Mauritania, Western Mali, and The Gambia, Senegal has an important influence upon

the development path of the region. A.I.D. supports regional linkages through the OMVS and the OMVG, and through regional training programs. A.I.D. also encourages the realization of intra-regional trade potential, particularly in livestock and to a more limited extent in cereals.

This regional, multi-donor perspective is ordered and enhanced by the work of the Club du Sahel and the CILSS. USAID/Senegal is a contributor to A.I.D.'s Regional Development Strategy Statement and is entirely in support for the wider programs benefiting Senegal which appear therein.

B. The Joint Assessment and Planning

The A.I.D. program in Senegal reaches the end in FY 1980 of its first major five year funding cycle. At the same time, the Government of Senegal shows increasing evidence of the will to attack constraints to rural growth as its first national priority. Believing the moment right, USAID/Senegal and the Government of Senegal have agreed to undertake a joint assessment of the A.I.D. program in Senegal, followed by a collaborative planning process.

According to the basic work plan agreed to by the USAID and the Ministry of Plan, the first phase of the assessment will be a joint evaluation of the major A.I.D. programs completed or nearing completion. Four projects have tentatively been selected, one each in health, livestock, irrigation and dryland food production. The purpose of the evaluation is to acquire information on the design and performance of A.I.D. projects and, in a larger sense, of the USAID program as it relates to the needs of Senegal and to wider A.I.D. and Sahel Program objectives.

The evaluation will attempt to determine:

- the extent to which Project log-frame objectives have been achieved;

- the perception and acceptance of the projects by Senegalese officials, managers, staff and beneficiaries;

- the identification of the beneficiaries;

- the obstacles and constraints that occurred in implementation of the projects.

Additionally, as part of the joint assessment, USAID/Senegal seeks to determine if the projects have addressed major constraints to development in Senegal and if not, why not. It is estimated that the evaluation and initial joint assessment will take approximately four months from February to May, 1980.

To manage the evaluation and subsequent assessment and planning stages, two committees have been formed. A Management Committee, co-chaired by the Minister of Plan and Cooperation and the U.S. Ambassador to Senegal, will meet monthly to oversee the general operation of the evaluation and the preparation of the assessment. Other Ministers will participate as needed on the Management Committee.

At the working level, a second group has been formed consisting of two technical representatives each of the Government and of USAID. This working group reports to the Management Committee each month and works full time carrying out the evaluation and preparing the assessment documents. Once the evaluations are complete and the results incorporated into the assessment documents, a joint Senegalese/U.S. meeting will be held at the ministerial-ambassadorial level to review and approve the joint assessment.

This assessment will form the basis for a continuing joint planning effort which will relate the findings of the assessment to Senegal's development plan and to A.I.D. policy objectives. The planning effort will seek agreement on future sectors of emphasis by USAID/Senegal, on projects which fit this new emphasis and which may be valid as pilot projects and, in addition, on program design criteria and processes. The conclusion of the first phase of this joint planning effort will be the development of the 1983 CDSS which will be submitted to AID/Washington in January, 1981.

Concurrent with the joint assessment and planning operation, a number of applied research initiatives will be undertaken. Senegalese development researchers and practitioners, as well as U.S. development specialists, will undertake this research. The latter would be available to USAID/Senegal through the central capabilities of the Development Resources Office of the Africa Bureau and through A.I.D.'s Development Support Bureau.

State-of-the-art papers will provide the starting points for an examination of what is known in agricultural development policy areas, what research can be realistically achieved in the short and middle term, and what specific program interventions can be used. The purpose of this research, undertaken with the participation of other bilateral and international donors, will be to improve the coordination of development assistance components and to achieve a more efficient application of funds for pilot ventures in rural development. This research plan will be integrated into the continual joint planning effort of the USAID and the Senegalese Government.

C. USAID: The Interim Strategy

1. The Program Goal

The overall goal of the A.I.D. program in Senegal is to improve the quality of life of the rural population. This goal coincides with the Government's growing emphasis upon the rural sector, where the country's considerable agricultural resources, as they are developed, will provide the force needed to start the Senegalese economy moving towards economic viability and self-sustained growth. The improved quality of rural life, including better health and nutrition, should be the prime beneficiary of, as well as a contributing factor to, increased agricultural production.

In the achievement of growth with equity in the rural areas, USAID along with other donors and the Government of Senegal will concentrate upon strengthening

the role of the Rural Communities in food production, in the improvement of nutrition and health care, in employment and income generation, and in energy and resource conservation.

Regarding the selection of future activities in pursuit of this overall goal, USAID/Senegal, together with the Government, will analyze sectors, geographic regions, and other donor activities to determine where A.I.D. resources can make a substantial difference. This will lead in the future to fewer, larger, and perhaps even more significant projects in key geographic areas.

2. Priority Sectors and Regions

Because the analysis of basic constraints indicated that improved rural quality of life in Senegal is most closely related to increased food production and to improved health and nutrition, USAID/Senegal has chosen the food/nutrition and health sectors for special concentration. The education sector (particularly non-formal education) will become increasingly important as pilot projects and reforms, currently in progress, prove themselves effective and ready to be expanded nation-wide. At the present time, USAID has included major human resource development components (both project-related training and non-formal education) as integral parts of its projects in the food/nutrition and health sectors.

USAID/Senegal sees, as a second-phase priority, the creation of more off-farm employment. As the rural economy expands, the demand for agricultural related tools, equipment and services will naturally increase. The USAID will seek to encourage the strong growth of an indigenous, locally based private sector. This will serve to increase revenues and employment in rural areas and, through local tax generation, to strengthen the Rural Community structure.

The beginning analysis has shown that the regions of the Casamance, the Peanut Basin and the Fleuve are of the highest near and medium-term priority for

increasing agricultural production, and for improving the general rural quality of life. The Sylvo-Pastoral zone, meanwhile, has a special priority in terms of livestock and because of the present danger of creeping desertification--areas in which the United States has particular experience and expertise. The Region of Eastern Senegal, the remaining major agricultural zone to be put in cultivation, while extremely important to long-term agricultural production of the country, is at the moment of lesser priority due to its lack of population and of basic infrastructure.

3. Links with Other Donor Programs

Given the very great reliance of the Government's rural-based strategy upon a range of external donors, an essential part of the USAID strategy in Senegal is to link A.I.D. activities with those of other donors effectively so as to combine resources for maximum effect. As referred to previously, Tables III and IV summarize the majority of donor flows and activities presently under way in Senegal.

Following are two of the important areas in which USAID/Senegal plans to cooperate especially closely with other donors.

a. Under the direction of the OMVS, an A.I.D. team is now drawing up plans for an extensive, multi-donor integrated development program in the Fleuve Region.

This program will provide the agricultural production systems and the secondary infrastructure necessary to support development within the basin area. This infrastructure will include irrigation structures, primary/secondary and farm-to-market roads, village water supplies and sanitation, health and education services, and storage facilities. The project is to be integrated with France, Germany, EEC and OPEC Funds since this vast effort is beyond the capacity of any single donor.

By taking the lead to clear secondary infrastructure bottlenecks and to establish a general program of development in the Senegal Basin, A.I.D. will assist the OMVS in providing a general framework in which other donors can invest resources with the assurance that they will be used productively. The existence of this general framework will result in the release of much greater resources from other donors, and will be particularly important for the full participation of OPEC donors who are expected to provide a key part of the investment in the dams and other primary infrastructure. Thus, a relatively modest investment by A.I.D. in creating the framework document will have a major catalytic effect upon donor flows into the Fleuve Region.

b. The Government of Senegal has requested the World Bank to help in the reorganization and rationalization of Senegal's agricultural research program. In response, the Bank has drafted a proposal designed to decentralize agricultural research in Senegal and to reorient it towards multi-discipline research focused on specific commodities. The cost of this program is estimated at $90 million over the next six years. While the Bank is the lead institution in this program it will account for only a small part of its financing. The Government of Senegal and other donors, including A.I.D., will provide the rest of the necessary financing. USAID/Senegal proposes to handle the socio-economic component of this project from direct grant funding and to use the additional resources available under Title III to support some of the infrastructure and operating costs. The other major donors, France and Belgium, have agreed to coordinate their programs to follow the general leadership of the World Bank's plan. Each donor will develop its own self-contained program, but as part of a coordinated whole.

These linkages with other donors are formed and maintained in a formal manner through such organizations as the OMVS and the Club du Sahel/CILSS. Also important, however, is the informal coordination and cooperation which takes place

among donors within Senegal itself. USAID/Senegal holds regular meetings with its donor colleagues to exchange views and update information on planned and ongoing activities. But of paramount importance is the Government of Senegal's policies concerning donor activities. As Table III and IV indicate, the Government does not permit any donor to concentrate its assistance so as to gain dominance over any given sector or geographic region in the country. Thus, no single large project exists in Senegal with the support of only one donor. It is the Government's desire that all major activities include at least two donors.

4. Specific Program Objectives

a. The Food/Nutrition Sector

Towards the goal of improving the quality of life in rural areas, USAID/Senegal places first priority upon activities in the food and nutrition sector. This follows from the analysis of basic constraints with which this paper began. We lay emphasis upon this sector with an increased awareness of the holistic nature of the food question, by which it is necessary to treat not only food production in its multiple aspects, but also food marketing, storage, distribution and consumption in such fashion that the diet of the rural majority is improved. The Title III program which begins in FY 1980 will support U.S. attention to each element of this sector, assisting the Government with the decentralization of crop-oriented research, with rural training and extension services, with the improvement of the cooperative system, and with selected programs undertaken by Rural Communities.

Dryland Farming

The analysis indicates that the major constraint in this area is the low productivity of dryland agriculture coupled with the rapid environmental degradation of the resource base, leading to even lower productivity. USAID's objective is to increase the productivity and stability of dryland production with particular

attention to the conservation and improvement of the resource base.

In this latter regard, USAID/Senegal will seek to develop programs which stress reforestation and soil conservation. Initial emphasis will be given to activities in the Sine Saloum region of the Lower Peanut Basin, the area most threatened with major production loss due to soil erosion and decline. The USAID will particularly seek to establish programs which may be replicated throughout the Peanut Basin and in other dryland areas.

USAID/Senegal will support the introduction of new technology, in its broadest sense, to the dryland areas. In particular, the USAID will support the socio-economic elements of the World Bank proposed decentralized agricultural research program. Under this program, the Government will set up regional research stations in each of Senegal's five major ecological regions. Directly linked with this effort, the USAID will support the upgrading of the extension system to improve the delivery of services, including research findings, increased nutritional education, and services to women. To this end, we will encourage efforts to upgrade the Government's managerial capabilities, especially at middle levels, by improving selected technical schools such as the National School of Applied Economics (ENEA) and the extension training school at Pout.

As Senegal achieves greater food production, post-harvest problems become increasingly important. Storage and pest control will help to alleviate rural malnutrition associated with seasonal food shortages, and will also help to provide means to collect food surplus for eventual shipment to urban consumers. A.I.D., primarily with Title III funding, will support such storage through construction of 100 local cooperative storage units.

Irrigated Farming

Low productivity in Senegal's irrigated agriculture is the result of several factors, including the lack of necessary infrastructure, the lack of

management skills among Government agencies and the farmers themselves, and the limited technological packages suited to irrigated farming. The objective of USAID/Senegal in this area is, by removing these constraints on production, to increase the productivity of small farmers using irrigation techniques.

To achieve this objective, the USAID will work in the Fleuve and Casamance on programs supporting the small farmer. Among these programs will be an expanded program within the decentralized program of ISRA, Senegal's agriculture research agency. A.I.D. will contribute from grant funds to both the agronomic and socio-economic aspects of this applied research. Title III funding will also be used to provide additional support in infrastructure and operational activities related to this research.

The extension system, particularly SAED in the Fleuve, needs to improve its ability to deliver extension services to small farmers. Additional training for SAED personnel at upgraded Senegalese technical schools, especially in rural administration and in special training programs, is anticipated. This training will provide SAED the ability to guide and direct small farmer irrigation programs. A.I.D. supported training for OMVS personnel will also work to improve managerial and planning capabilities in that organization. In the Casamance region, special efforts need to be made to improve the delivery of extension services to women who play a major role in cultivation, particularly of rice.

Programs to provide, with other donors, the necessary secondary infrastructure required to put irrigated land into production and to provide for the basic human needs of the rural population in the Fleuve, and to a more limited extent in the Casamance, is a major new departure for USAID/Senegal.

Livestock

Low livestock productivity and deteriorating rangelands are responsible for low meat output for consumers and uncertain economic conditions for herders.

The USAID's objective is to assist Senegal in bringing herd size into equilibrium with range resources while at the same time improving productivity per animal. As the total production of livestock is also increased with improved off-take, the herders' income position stands to be greatly improved.

Major programs will be targeted towards better management practices of cattle herds and rangelands. Livestock agents and herders will participate in improved programs in herd nutrition, sanitation and management. Major efforts will be undertaken to protect and improve range conditions. Concurrent programs will be conducted to improve marketing efficiency, a very important factor in reshaping herd size, protecting the resource base, and improving herder income. The USAID will work with the Senegalese national livestock service and with SODESP, the Regional Development Agency concerned, in improving their functioning and the effectiveness with which they transmit improved livestock production packages to herders.

USAID/Senegal will also seek greater integration of livestock operations into dryland and irrigated crop production programs, particularly in parts of the Peanut Basin where programs have already begun, and where integration is expected to be expanded.

Off-farm Employment

If experience elsewhere may serve as a guide, success in the effort to increase agricultural production and incomes will create an important demand for farm-related materials and services. To meet this demand, USAID/Senegal will search for ways to encourage the growth of an African private sector of small-scale enterprises. These rural small industries, in addition to directly providing farmers with equipment and services, will also supply products for urban consumption based upon the agriculture and forestry sectors, thus augmenting the urban-to-rural resource flow. Off-farm employment may thus provide a significant

source of rural incomes. The USAID will begin to explore opportunities in this area in the course of the joint assessment and planning exercise.

Nutrition

Nutrition plays a central role in the food-health continuum, and thus is difficult to classify. Although in the analysis of basic constraints we grouped nutrition concerns with those of health, in future strategy considerations we will tend to associate the resolution of nutrition deficiencies more closely with food production. In reality, nutrition is linked in some way with nearly every activity in which USAID/Senegal is engaged: with population programs because the infant mortality rate is increased by malnutrition which in turn has an effect on greater procreation; with energy conservation and rural industry through schemes to pre-cook millet as weaning foods for infants and an instant couscous for adults; and with research programs to maximize the nutrition content of peanuts and cottonseed, to increase millet and soy production and to learn basic household consumption patterns.

The USAID's objective is to improve nutrition among the most vulnerable groups (children under five and pregnant and lactating women) and among the general population in the peak pre-harvest work period. A key to achieving this objective will be the heightened awareness of nutritional issues among government officials and the rural population.

The USAID's principal means thus far to address the nutrition question directly has been through PL 480 Title II food imports. These are distributed through a child and maternal health care program at rural health centers by Catholic Relief Services. USAID/Senegal will be considering the feasibility of locally producing millet-based weaning foods and pre-cooked millet products for the adult urban population. Both use the same low-cost extruder technology.

This technology and its application in Senegal are in an early

introductory phase. Conceivably, however, if millet based weaning foods and precooked millet, based on this technology, receiveswide acceptance, this process could prove of great value in a number of important areas: reducing labor in food preparation, reducing the energy needed to prepare foods, making millet more marketable in urban areas, providing rural based employment, and reducing rice imports, along with the need for PL 480 Title II and Title III programs.

USAID/Senegal also plans to encourage the incorporation of nutrition and dietary training into the extension program of the various Rural Communities. The USAID will help carry out necessary basic research on the nutritional status of the population through use of resources from Title III. As a second stage, workshops and seminars will be undertaken to bring this information to government officials and policy makers to assist them in nutritional planning.

Women in Development

Actions to improve the well being of women is an integral part of all USAID/Senegal's agricultural and nutritional programs. Women make up the majority of farm labor and play an important role in agricultural production beyond their role in the care of children and food preparation. Yet, they do not receive a representative share of governmental services and consequently do not achieve their potential to contribute to agricultural production and rural well being. The USAID objective is to increase the availability and delivery of government services to women and to reduce the onerous burden of household and food preparation chores women now bear, freeing them to be a more productive element in the rural society.

Within socially and culturally acceptable avenues USAID/Senegal seeks greater equality of access to extension, nutrition, and especially to training services for women. Additionally, it seeks the mobilization of women through women's associations, to provide themselves with needed services which may be

unavailable through normal channels.

USAID/Senegal is also concerned that women farmers are not disadvantaged by the greater mechanization of agricultural production provided in the large regional development projects. The USAID is placing emphasis on the regular gathering and monitoring of data concerning changes in the socio-economic role of women engaged in farming in the project areas.

b. The Health and Population Sector

Following the basic constraints analyzed in the initial section of this paper, the improved health of the rural population, associated with declining population growth rates, is USAID/Senegal's second priority concern. We are aware that the Government's rural strategy is not yet as completely formulated in this sector as it is in response to other constraints. A.I.D. programs, therefore, play an important role in testing new approaches and encouraging new activities to begin.

Village Health and Nutrition

The USAID's objective here is to provide low cost, locally supported basic health care and nutrition education to the rural poor majority. To achieve this objective USAID/Senegal plans to expand the basic health care program now under way in the Sine Saloum region, once adequate data on program implementation is acquired. This data will lead to necessary modifications to improve the program before it is expanded and/or replicated in other areas.

Health Surveillance and Monitoring

The lack of adequate data on the impact of development projects has hampered steps to minimize adverse health and nutritional consequences of A.I.D. projects. The USAID's objective here is to establish a systematic procedure for the monitoring of changing nutritional and health conditions resulting from new projects. Because of the danger of water-borne diseases, it is particularly

important that health surveillance components be built into irrigated agricultural programs in the Fleuve and Casamance. Also, nutritional surveys will become integral parts of A.I.D. agricultural programs to evaluate the actual effect of these activities on the nutritional levels of project beneficiaries.

Family Planning

The 1976 census brought home to Government planners the fact that Senegal's population is growing faster than its means of support. This has led to declining per capita welfare, especially among people of lowest income. USAID/Senegal's objective in this area is to assist the Government to lower the growth rate of the population to a level that will allow increasing per capita welfare.

The Senegalese Government has begun to seriously consider the population problem and the form which a family planning program should take. The USAID will follow the lead of the government once the government has decided on the approach to family planning which Senegal will take. We anticipate a major expansion of A.I.D. activity in this area.

In the meantime, we are prepared to support other preparatory measures. Through a RAPID presentation at working and Ministerial levels, and in other ways, USAID/Senegal will help to make Government planners and other officials aware of the population growth impact on Senegal's development. We also plan to work with the Government to devise a population strategy by weighing the basic determinants of population growth, including the education rate of women, the average age of marriage, and other factors.

A first step in providing a favorable climate for family planning, particularly in rural areas, is improved basic health care and nutrition for mothers and children, which results in lower infant mortality and greater child spacing. This ties directly with the general nutrition aspect of the USAID strategy. Another important step is the achievement of improved economic conditions and opportunities

for women, with its positive effect on their general well-being. These achievements also may tend to compensate women for any loss of traditional status they suffer due to a reduction in their child-bearing role.

c. Renewable Energy, including Fuelwood

As our initial analysis has shown, a long standing concern that has recently come to the foreground as a problem of major dimensions is the depletion of energy resources in Senegal, principally fuelwood. USAID/Senegal's objective in response is to develop renewable energy resources and technologies that are responsible to rural needs and which are environmentally sound, inexpensive, simple to use and maintain, and capable of use and replication over a wide area.

In the near-term, the USAID will mount a program towards this objective which initially will emphasize firewood production, particularly in the highly populated Thies region. This production will be accomplished both on plantation and on village/household woodlots. The beneficiaries will be heavily involved in planting, maintaining and protecting the woodlots. Along with fuelwood production, the USAID will also encourage the development and wide use of more efficient wood stoves and cooking pots and of improved charcoal conversion techniques. Another energy conserving measure is the previously mentioned pre-cooked millet feasibility study.

For longer-term solutions, the USAID will support research and testing of other renewable resources. Most important in this regard will be support for the expanded utilization of tested, replicable devises which use sun, wind and other plentiful forms of energy.

The energy question will constitute a topic of major interest in the joint assessment and planning effort. We hope to derive a keener sense of the measures which the Government of Senegal desires most to undertake.

d. Management Strategy

USAID/Senegal has developed a management strategy which focuses on three principal objectives:

- increasing the efficiency and rate of project implementation;
- reducing the cost and increasing the continuity of all USAID management components by means of the Senegalization of the USAID staff; and
- development of project selection criteria which facilitates program management.

Implementation

There are currently 19 ongoing activities in the USAID portfolio. Of these, five are being undertaken using PVO's while another two are being implemented with assistance from the Peace Corps. Experience to date with both of these channels has been satisfactory. Both PVO's and the Peace Corps represent an important augmentation of USAID capacity to plan and implement programs.

PVO's have an inherent limitation, namely the difficulty they encounter in recruiting large numbers of American personnel and in supporting more than relatively small projects. Peace Corps, on the other hand, can provide significant numbers of lower and middle level technicians in the implementation of substantial assistance projects. For that reason, the USAID is prepared to look increasingly to the use of Peace Corps volunteers in those programs which require large numbers of expatriate personnel in remote areas. USAID/Senegal, meanwhile, will use PVO's for pilot programs or for projects which are important to the Government of Senegal but which are not at the core of USAID strategy. An example of such a program is the YMCA/ORT training program for urban unemployed in Dakar.

A continuing constraint to the implementation of the A.I.D. program is the difficulty of recruitment of U.S. technical personnel for field projects. U.S. universities have not proven to be an effective source for providing

technicians for implementation of field activities. U.S. private firms have somewhat less difficulty in securing personnel but do so at substantially greater cost. Hence the USAID has had to resort to a number of Personal Services Contracts. While the technical quality of the personnel recruited by this means is acceptable, the cost of administering a large number of PSC's is high. Over the next year, USAID/Senegal will examine, therefore, how the administration of existing PSC's can be consolidated and whether these personnel should be placed under a unitary contract with a U.S. firm.

Because of the substantial number of ongoing projects now under way, USAID/Senegal recorded a $26,561,000 pipeline as of December 31, 1979. Recently, the USAID undertook a series of steps to reinforce the management of project implementation and thereby to reduce the pipeline.

The first such step is the setting up of a Project Support Unit within USAID/Senegal, in support of project managers and field staffs for:

- consolidation of all project inputs and all aspects of commodity procurement,
- housing, supplies, and other logistical support,
- logistics and administration for all participant trainees, and the
- provision of uniform support to project personnel in remote areas.

Previously, each project manager provided support for individual activities even though several activities might be under way in a single town such as Bakel.

Secondly, USAID/Senegal plans to reduce the number of activities directly managed by the USAID in order to focus implementation efforts on a smaller number of large management units in a more limited number of geographic areas. Hence, for the near-term, U.S. activities will be focused on the Peanut Basin, the Casamance, and the Senegal River Basin. Field project units, to the extent

possible, will be consolidated in order to make their support more efficient. In addition, most project managers will be assigned directly to the Ministries which have responsibility for their projects. This will increase the interchange between USAID personnel and their counterparts and will improve our knowledge of host government procedures. This move should also lead to more rapid agreement between the USAID and the Government and expedite the taking of joint decisions.

Increasing Local Staff Capacity

A contract is being undertaken with the Organization of Rehabilitation through Training (ORT), in order to:

- examine overall future staff needs and consider options for enlarging the proportion of the tasks which may be handled by local employees;
- evaluate recruitment possibilities and the training which will be required to prepare local employees for the proposed tasks;
- review career avenues and incentives for the performance of local employees;
- assist in the selection of promising local candidates and train them in specific job tasks;
- train and orient already existing Senegalese staff and enlarge their potential career avenues; and
- prepare U.S. and local staff within USAID/Senegal to conduct local staff training.

The net effect of this effort on U.S. staff will be to maintain a modest number of Direct Hire personnel during a period of program increases and over time to reduce Direct Hire personnel.

Supporting Management Actions

The recently submitted Title III program will provide significant assistance in simplifying the management of the A.I.D.-financed activities. Currency

generated by the program will be used to provide local costs for such projects as agricultural research, reforestation and rural development training. This will simplify normal USAID accounting procedures. Recurrent costs financed under the Title III program will also significantly increase the absorptive capacity of the Senegalese Government, permitting it to assume a larger portion of the responsibility for the administration of A.I.D.-financed activities.

Finally, private Senegalese institutions are being used increasingly to undertake research analysis and project supervision which normally is provided by U.S. experts or private companies. Recent examples include demographic analysis, anthropological research and construction supervision.

A.I.D.'s Office of Management Planning has agreed to provide assistance to help the Mission regularize its administrative and implementation procedures. This assistance will also lead to the drafting of a Mission handbook on internal procedures so that operations can be regularized, leading to greater internal efficiency and the more effective use of local and TDY personnel.

III. ASSISTANCE PLANNING LEVELS

Table I presents the Proposed Assistance Planning Levels. These levels represent the minimum which A.I.D. has indicated will be forthcoming within the context of the Club/CILSS Sahel Development Program. The development problems outlined in this paper are long-term problems for which no resolution can be expected within five years. As important as the number of people which will be immediately assisted by the A.I.D. program is the prospect that, during the time span of this strategy statement, A.I.D. can begin to help to provide the basic institutional and infrastructure development which is necessary for Senegal's long-term development.

The Mission has an authorized personnel level of 28, of which 24 positions are filled. Future programs will not substantially increase the number

of projects, but will involve projects of larger scope. Project management requirements at the mission will not increase appreciably, particularly in view of the fact that many projects which A.I.D. will be financing will be implemented by university or institutional teams. At the end of the five year period covered by this paper, A.I.D. mission personnel can be expected to increase by four over the present authorized level, including an environmentalist and three project managers.

59/80

A N N E X

GLOSSARY

TABLES AND MAPS

TABLES

I. Proposed Assistance Planning Levels (PAPL)

II. Tabular Summary of Socio-Economic Analysis

III. Summary of Major Donor Ongoing Commitment by Sector and Region as of 1979

IV. Tableau of Present Major Ongoing Donor Commitment by Sector and Region

V. Matrix of U.S. Assistance Instruments by Sector - FY 80

MAPS

1. Administrative Boundaries and Cultural-Economic Zones

2. Senegal: General Migration Flows

3. Senegal: Major Cities and Communication Links

4. Senegal: Rainfall and Population

5. A.I.D. Programs in Senegal

Previous Page Blank

GLOSSARY OF ACRONYMS

ACRONYM	FULL TITLE	EXPLANATION
ABEDA (BADEA)	Arab Bank for Economic Development in Africa	
ADB (BAD)	African Development Bank	
ADF (FAD)	African Development Fund	
CCCE	Caisse Centrale de Cooperation Economique	Official French loan agency
CEAO (WAEC)	Communaute Economique de l'Afrique de l'Ouest	Francophone West African Common Market
CFAF	Monetary unit of Senegal	Approximately 200 CFAF = $1.00 U.S.
CIDA (ACDI)	Canadian International Development Agency	Canadian aid agency
CILSS	Comité Permanent Inter-Etats de Lutte contre la Secheresse dans le Sahel	Sahel regional organization for drought relief
ECOWAS (CEDEAO)	Economic Community of West African States	
EIB (BEI)	European Investment Bank	
FAC	Fond d'Aide et de Cooperation	France's special appropriation for project assistance
FAO (OAA)	Food and Agriculture Organization of the UN	
FED (EDF)	Fonds European de Development	Common Market development fund
HPS	Hand Picked Select	Refers to confectionery peanuts
IBRD (BIRD)	International Bank for Reconstruction and Development	World Bank
IDA	International Development Association	Soft loan window of IBRD
ISRA	Institut Senegalais de Recherches Agricoles	Senegal's agricultural research institute
ITA	Institut De Technologie Alimentaire	Food research center and laboratory
KFW	Kreditanstaff fur Wiederaufban	German aid agency

OMVG	Organisation de la Mise en Valeur du Fleuve Gambia	Organization for Gambia River development
OMVS	Organisation de la Mise en Valeur du Fleuve Senegal	Regional organization for development of Senegal River basin
ONCAD	Office National de la Coopération et de l'Assistance au Développement	Senegalese agricultural marketing agency.
ORT	Organization of Rehabilitation through Training	Non-profit organization
PL 480		Legislation authorizing U.S. food aid program
RAPID	Resources for the Awareness of Population Impacts on Development	
SAED	Société d'Aménagement et d'Exploitation des Terres du Delta	Regional development agency for Senegal River Valley
SDP	Sahel Development Program	
SERST	Secretariat of State for Scientific and Technical Research	Ministry for all research in Senegal
SODEFITEX	Société pour le Développement des Fibres Textiles	Regional development office for Eastern Senegal and Upper Casamance
SODESP	Société de Développement de l'Elevage dans la zone Sylvo-Pastorale	Office for livestock development in the Sylvo-Pastoral zone of Northern Senegal
SODEVA	Société de Développement et de Vulgarisation Agricole	Regional agency for extension services and development in Peanut Basin
SOFISEDIT	Société Financière Sénégalaise pour le Développement de l'Industrie et du Tourisme	Financial institution
SOMIVAC	Société pour la Mise en Valeur de la Casamance	Regional agency for planning and development in the Casamance
SONEPI	Société Nationale d'Etudes et de Promotion Industrielle	Agency for small and medium sized business
UMOA	West African Monetary Union	
UNDP (PNUD)	U.N. Development Program	
UNESCO	U.N. Educational, Scientific & Cultural Organization	
UNFPA (FNUAP)	U.N. Fund for Population	

PROJECT ASSISTANCE PLANNING LEVEL — Table 1.

CATEGORIES:	FISCAL YEARS ($000)					
	1982	1983	1984	1985	1986	TOTAL
1. AGRICULTURE:						
Food Production						
Dryland	3,000	4,000	4,500	3,000	3,000	17,500
Irrigated	5,200	6,500	6,000	10,000	11,000	38,700
Livestock	2,500	1,800	3,500	3,000	3,500	14,300
Planning & Research	2,500	2,500	1,500	500	500	7,500
Institution Develop.	2,000	1,700	1,500	2,000	2,000	9,200
Marketing & Storage	-	1,000	1,000	2,000	2,000	6,000
SUB-TOTAL	15,200	17,500	18,000	20,500	22,000	93,200
2. HEALTH AND POPULATION						
Rural Health/nutrition	2,000	2,400	2,300	2,300	2,000	11,000
Surveillance and Monitoring	400	700	800	500	500	2,900
Family Planning	1,500	2,000	2,000	2,500	2,500	10,500
Rural Water Supply	-	1,000	2,000	2,000	2,000	7,000
SUB TOTAL	3,900	6,100	7,100	7,300	7,000	31,400
3. ENVIRONMENTAL REHABILITATION AND RENEWABLE ENERGY	3,000	3,000	5,000	5,000	5,000	21,000
4. HUMAN RESOURCES	-	2,000	2,000	2,000	2,000	8,000
TOTAL	22,100	28,600	32,100	34,800	36,000	153,600
TITLE II (non-add.)	5,000	5,000	5,000	5,000	6,000	26,000
TITLE III (non-add.)	10,000*	11,000	11,000	11,000	11,000	54,000

*Included $3 million of wheat imports

TABLE 2. TABULAR SUMMARY OF SOCIO-ECONOMIC ANALYSIS

AREA	SOCIO-ECONOMIC INDICATORS	CHARACTERISTICS
Cap Vert	-Population: 1,000,000 all urban -Growth rate: 7% -Per capita $1000 for region but 75% population below $400/p.c. -Caloric intake 2,500 per day -Medical infrastructure: 73% doctors, 82% dentists, 76% midwives	-Heavy indebtedness -Substandard housing and clothing -Limited schooling -Overburdened public services -Social instability -High (25-50%) unemployment -Ethnically mixed
Peanut Basin	-Population: 2.5 million, 15% urban -Source of 2/3rds of Senegal's revenue -Per capita income $75 in northern zone to $250 in southern zone -Social infrastructure somewhat available in northern region to almost non-existant in southern region	-Northern region, mostly Wolof peanut farmers with some Peuhl herdsmen -Central region, most overpopulated with ethnic mix of Wolof and Serer farmers. Extensive outmigration. -Southern region, mostly Serer farmers/herdsmen -Areas of highest productivity and in-migration
Fleuve	-Population: 500,000, 20% of which are in St. Louis -Rural per capita income $40-80 -Income from migrant workers in France and Dakar major source of income, 25 to 50% in upper Fleuve -Area of poorest of rural poor (with sylvo-pastoral zone)	-Lower Senegal River(Delta) mostly Wolof, Middle Senegal River Tukulor and Upper Senegal River Soninke ethnic groupings -Complete dependency on highly erratic climatic variables and river flow -Lack of infrastructure limits development of irrigation potential -Low technology now used on farms
Casamance	-Population 750,000 -Nutrition levels higher than rest of rural Senegal -High child mortality and other health problems due to endemic tropical diseases -High rainfall and undeveloped regions indicate high ag. potential -Higher literacy due to missionary schools	-Region isolated from rest of country -Major ethnic groups are Diola in Lower Casamance, Mandinge in Middle and Peulh in Upper Casamance. -Large migration from Lower Casamance to Dakar and other regions. -Low level of technology employed in production, low productivity.
Eastern Senegal	-Population 750,-00, underpopulated -Per capita income $40-150 Social infrastructure non-existant -Communication infrastructure still limited -Major agricultural potential	-A region of forgotten people -Population made up of Peulh, Saracole and other smaller ethnic groups
Sylvo-Pastoral	-Limited population -Per capita income $30-80, poorest of the poor -Mainly Peulh herders -No infrastructure	-Population highly independent in nature, resistant to integrate into national economy. -Complete dependency on highly variable climate -Directly affected by desertification and Sahelian Drought.

TABLE III - SUMMARY OF MAJOR DONOR ON-GOING COMMITMENTS BY SECTOR AND REGION AS OF 1979 (IN MILLION US $)

Region / Sector	Non Regional Specific	Cap Vert	Peanut Basin	Fleuve	Eastern Senegal	Casamance	Sylvo-Pastoral	Total
Agriculture/ Nutrition	14.6	27.4	54.1	93.8	23.6	47.1	17.3	277.9
Health & Population	-	18.7	15.5	8.7	-	-	3.0	45.9
Education	20.4	81.0	-	-	-	-	-	101.4
Infrastructure (Communication)	79.5	15.5	-	-	-	64.0	5.2	164.2
Industry	-	70.2	66.8	3.1	2.2	-	-	142.3
Other	33.2	34.5	0.7	3.8	-	-	-	42.2
Total	117.7	247.3	137.1	109.4	25.8	111.1	25.5	773.9

Source: 1979-UNDP Resident Representative Report on Donor Assistance; Ministry of Plan and Cooperation, Bulletin d'Information sur l'Exécution du Plan volume 4-7; CILSS/Club du Sahel, Official Development Assistance to CILSS Member Countries 1975-1978; Miscellaneous documents from FAC and IBRD.

TABLE IV. TABLEAU OF PRESENT MAJOR ONGOING DONOR COMMITMENTS TO SENEGAL BY SECTOR AND REGION AS OF 1979 (Amount in Parentheses in Million US $)

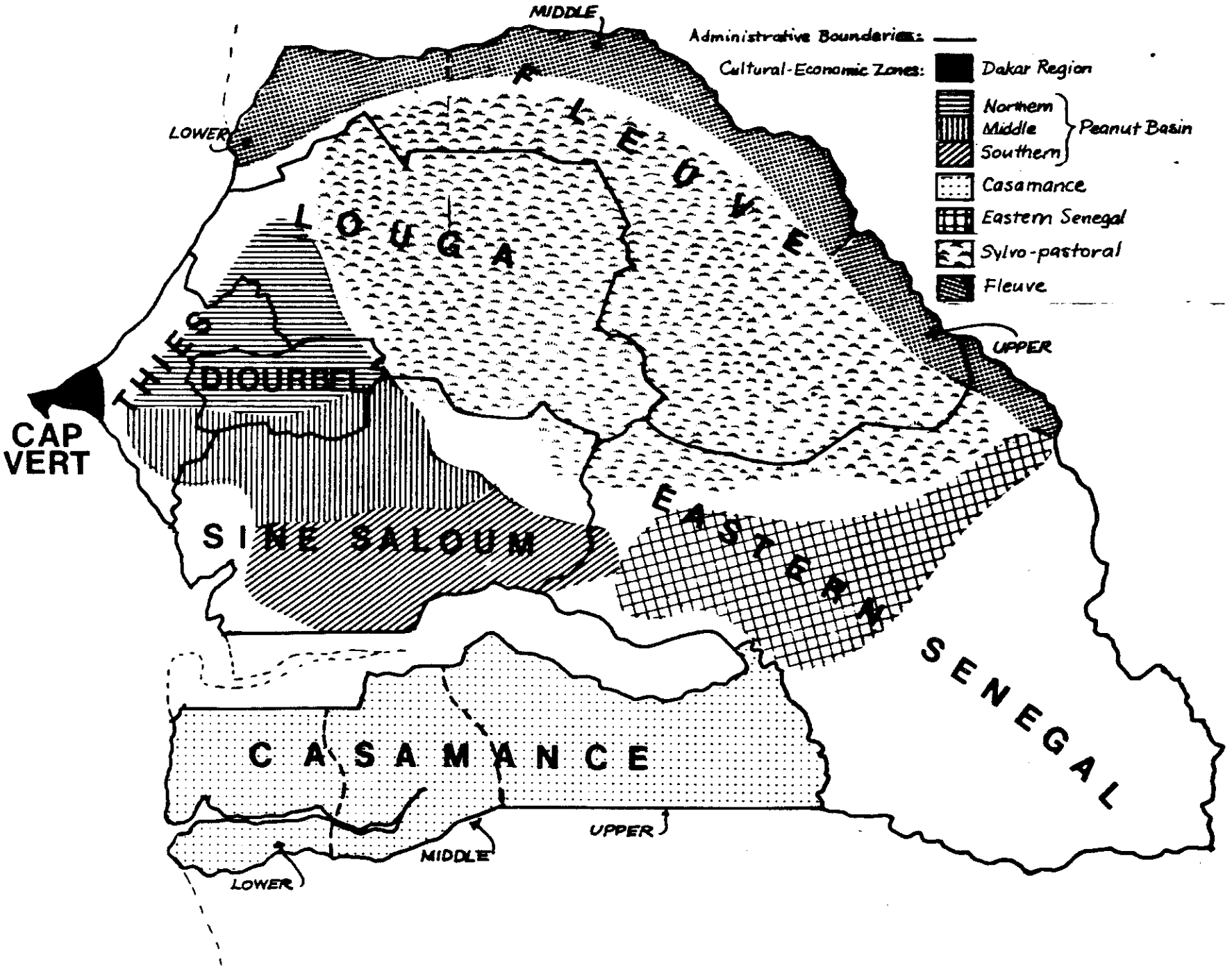
Sectors \ Regions	Non-Region Specific	Cap Vert	Peanut Basin	Fleuve	Eastern Senegal	Casamance	Sylvo-Pastoral
AGRICULTURE AND NUTRITION	-Feeder Roads (6.6) IBRD -Storage support for ONCAD (0.9) KFW -Cold Storage units (2.2) CIDA -Warehouse for ONCAD (4.9) USAID	-Horticultural center (3.6) FAO -Traditional fishing (0.8) FAO -Horticultural center Cambérène (8.1) Belgium -Traditional fishing (10.1) CIDA -Fertilizer factory (2.8) KIB	-Ag. diversification (16) IBRD/IDA -Fruit Production N'Boro (5.2) FED -ISRA (0.7) FAC -Agricultural Credit (8.2) IDA -Confectionary peanuts (5.5) FED -Fruit production (5.8) FED -Pilot Farms (1.1) Belgium -Ag. diversification (9.4) CCCE -Cereals production (4.2) USAID	-Support SAED (1.8) CCCE -Debi-Lampsar Irr. (6.4) Kuwait -Debi-Lampsar Irr. (20) IDA -Irrigation (6.9) FAC -Matam (5.8) FAC -N'Dombo Thiaye Basin (4.1) FAC - " " " (4.4) CCCE -SAED (3.8) FAC -Niongo (7.8) FED -Water Canal Improvement (8.0) CCCE -Small Perimeter Podor/Matam (3.3) CCCE -Matam (6.2) CCCE -Small Perimeters (2.0) Netherlands -Bakel Small Perimeters (6.6) USAID -ONVS Ag. Research (2.0) USAID -ONVS Environmental Study (3.0)USAID -SAED Training (1.7) USAID	-New Lands II (2) IDA -Livestock (4.2) IDA -Cotton prod. (8.0) FED -Integrated Rural Develop. (2.9) FAC -Livestock E.S. (1.7) ABEDA -Livestock E.S. (4.0) Kuwait	-Sedhiou II (6.3) IDA -Forestry (0.7) FAO -Seed Service (3.9) FED -Forest protection (1.3)CIDA -Sedhiou II (3.3) CCCE -Anambe Basin (4.2) Saudi Fund -Hydro-geologic study of Cas. Basin (1.3) FED -Guidel Valley (2.4) ADF -Lower Casamance (23.7) USAID	-SODESP (0.5) FAC -Reforestation (4.6) Germany/Canada -Livestock in Ferlo zone (8.3) FED -Bakel Livestock (3.1) USAID -SODESP (0.8) USAID
HEALTH AND POPULATION		-Basic Health Pikine (2.9)Belgium -Water supply (5.9) ADB -Sombedioune sewer (1.3) CCCE - " " (4.9) FED -Dakar water (0.8) CCCE -Pediatric center (0.9) CIDA -Dantec Hospital (2.0) KFW	-Basic Health (0.7) CIDA -Sewer-Kaolack (1.3) Italy -Village water (5.2) FED -Village water (7.0) Belgium -Village level health (1.3) USAID	-Hospital at Matam (2.2) Belgium -Hospital in Fleuve (8.5) FED			-Village water (3.0) KFW
EDUCATION AND HUMAN RESOURCE DEVELOPMENT	-Secondary Education (15.0) IDA -Primary Education (5.4) FED	-Senegal Institute for home economics (1.3) UNESCO -Scholarships (2.6) FED -Scholarships (2.7) Belgium -Polytech School Thies (15.3)CIDA -Computer center (4.1) CIDA -Hotel School (0.9) FAC -Univ. of Dakar (3.5) FAC -Scholarships (1.9) FAC -Tech.Training (2.3) Switzerland -Technical assistance (28.7 year) FAC -ITA (0.8) CCCE -IUT (1.0) FAC -Electrical Tech. School (2.4) CCCE -Lycee Pikine (13.5) Consortium					
OTHERS (INFRASTRUCTURE, INDUSTRIAL DEVELOPMENT ETC)	Railroad Improvement (6.4) IBRD -Telecommunication (6.2) IBRD - " (3.8) CCCE -Highways II (8.0) IDA -Highways III (15.0) IBRD -Railroads III (11.0) IBRD -Airplane (18.2) Citibank - " (3.0) CR Netherlands -Improve secondary roads (1.2) UNDP -Pawaitel (3.2) CIDA -Train engines (3.3) CCCE -Planning assistance (1.1) UNDP -Administrative reform (0.7) UNDP -Census report (1.4) UNFPA	-Site & Service (8.0) IDA -SOFISEDIT (3.0) IBRD -SOFISEDIT II (4.2) IBRD -SOFISEDIT II (7.5) KFW -Port of Dakar (6.0) IBRD -Para-Public Sector (6.3) IDA -Airport (13.2) Citibank -Free trade zone (0.8) FED - " " " (2.4) CCCE -SONEPI (1.2) KFW -Fish Dock (9.3) ABEDA - " " (7.0) CCCE -Tuna storage (0.6) Spain -Ocean fishing (10.6) Spain - " " (6.5) USSR -Teranga Hotel (9.9) EIB -Dakar Industry (3.5) KFW -Cable Dakar/Casablanca (7.0)CCCE -Cable Dakar/Abidjan (3.9) CCCE -Electricity (2.4) CCCE -Generator (8.5) CCCE -City Buses (2.4) Consortium -Dakar Marine (6.8) Consortium	-Petite Côte Tourism (13.6) IBRD -Foundry Thies (1.1) UNDP -Improve Petite Côte (2.3) CCCE -Peanut crushing plant Diourbel (9.3) CCCE -Peanut crushing plant Diourbel (31.1) Consortium BNP -Phosphate extraction (9.4) CCCE -30 KV Line N'Bour (0.7) CIDA	-Fishing Port St.Louis (3.4) Poland -Electricity St.Louis (3.8) ADB	-Iron ore study (2.2) FAC	-Zig-Cap Skirring road (4.4) CCCE & (7.3) Islamic Bank -Bridges Zig-Cap Skirring road (6.5) ADB -Ziguinchor bridge (8.6) FED -Paving Kolda/Velingara road (7.2) FED -Road Tambacounda (14.4) CITIBANK -Road (3.9) BN PARIS -Road (2.8) CITIBANK -Road (9.9) First Nat. Dallas	- Road Longa (5.2) ADF

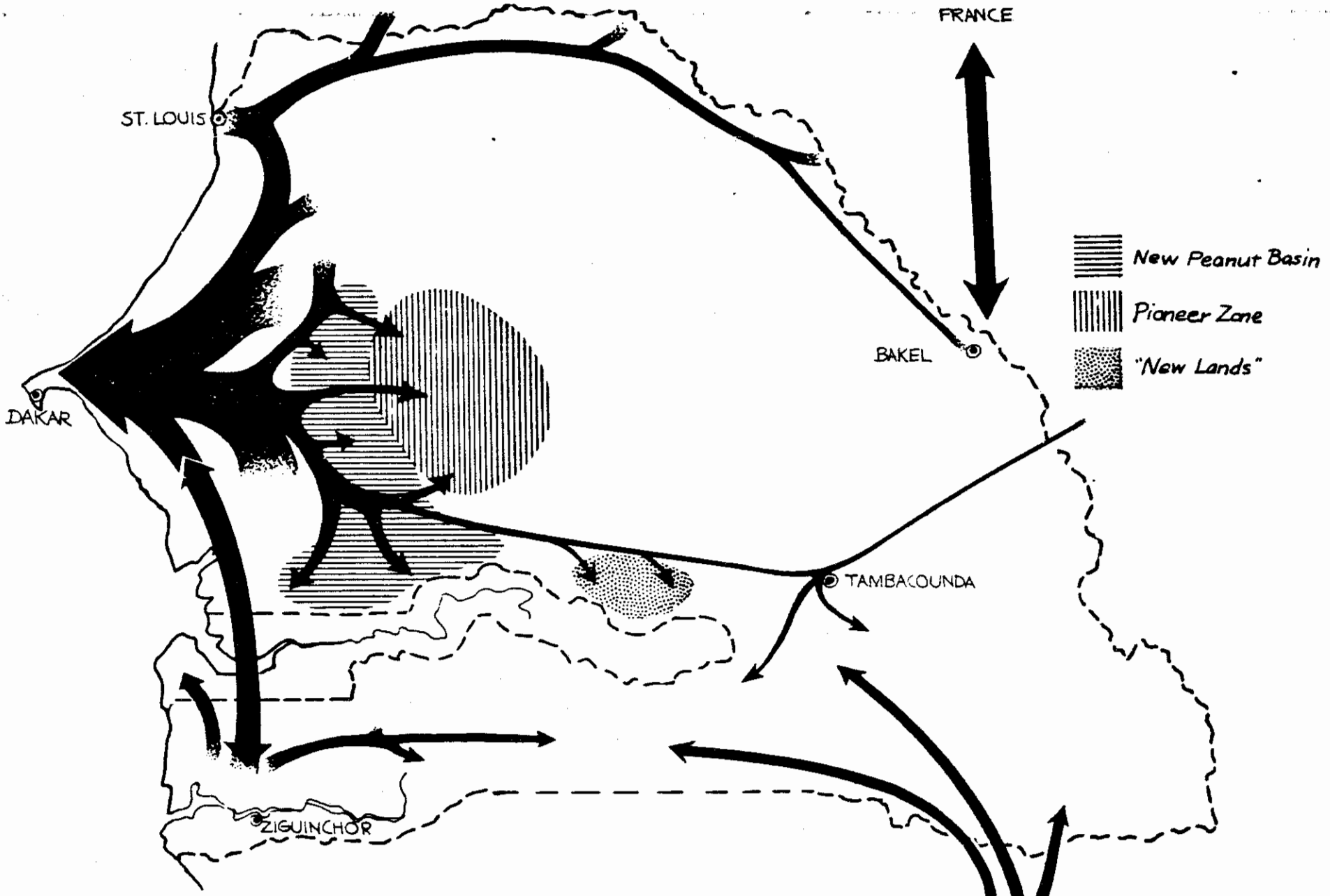
TABLE V - MATRIX OF U.S. ASSISTANCE INSTRUMENTS

BY SECTORS - FY 80 Units $1000

INSTRUMENTS / SECTORS	DEVELOPMENT ASSISTANCE	TITLE II	TITLE III	PEACE CORPS	PVO'S	TOTALS
1. Agriculture						
Dryland	1,750	450	1,800		150	4,150
Irrigated	2,500			350	100	2,950
Livestock	1,000				15	1,015
2. Institutional Building Research	5,175		2,700			7,875
3. Nutrition		5,000		126	100	5,226
4. Population/Health						
Rural Health	500	210		420		1,130
Population	525					525
5. Renewable Energy (Reforestation)	1,225			70	43	1,338
6. Human Resource Development	1,500		2,500	434	150	4,584
TOTAL	14,175	5,660	7,000	1,400	558	28,793

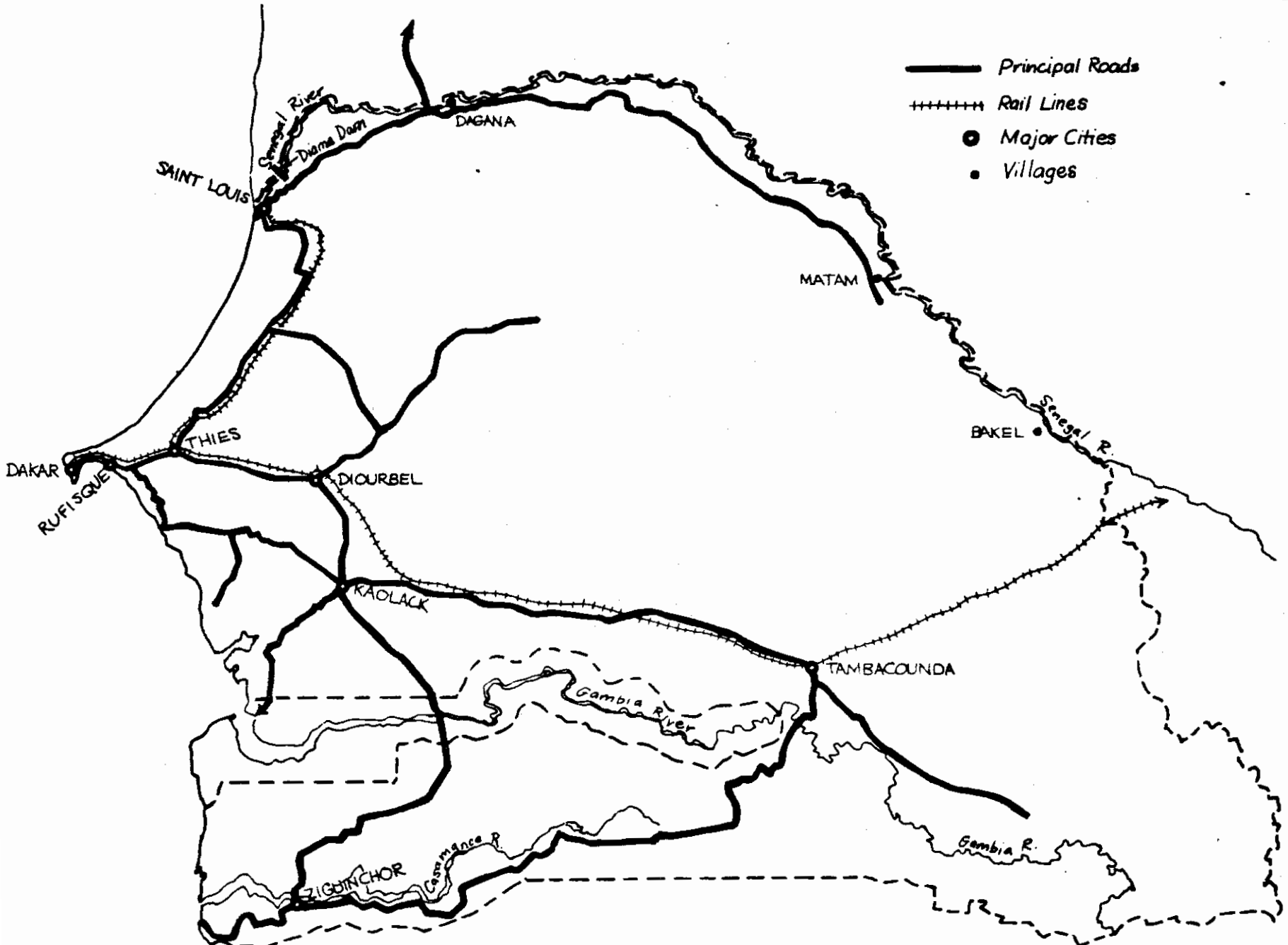
ADMINISTRATIVE BOUNDARIES and CULTURAL-ECONOMIC ZONES



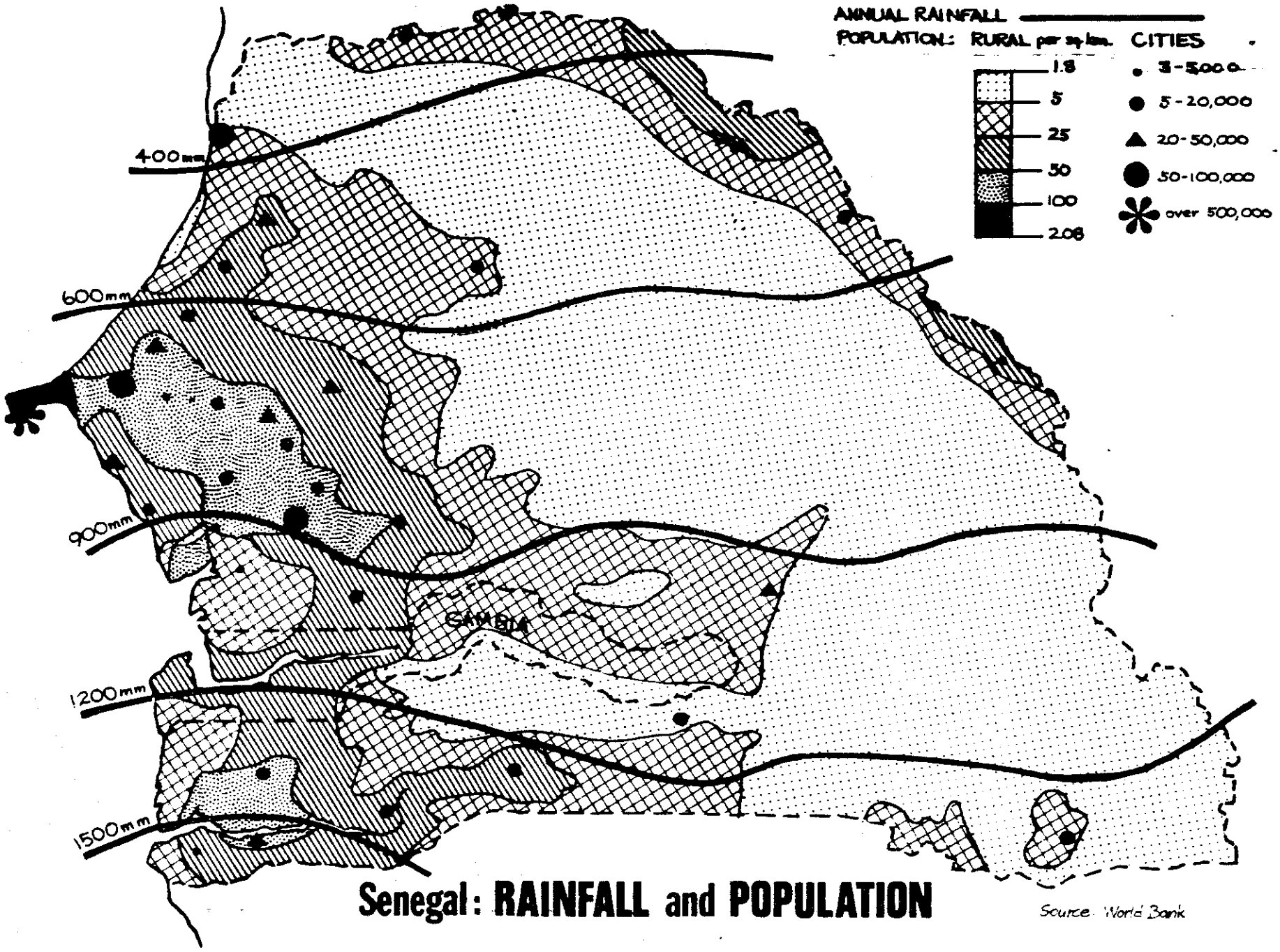


Senegal: GENERAL MIGRATION FLOWS

Source Senegambia Migratory Study
by Lucie Colvin et al

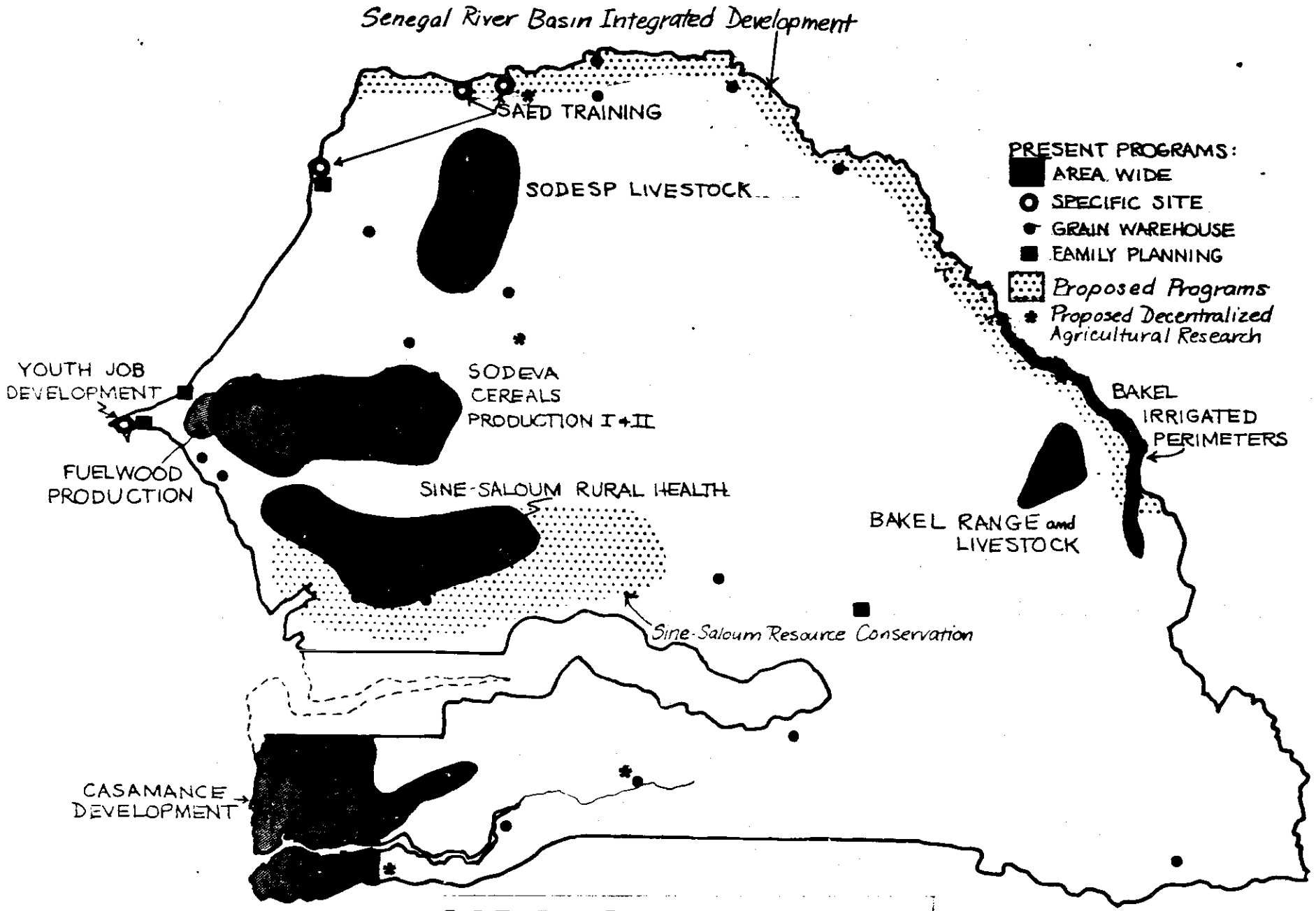


Senegal: MAJOR CITIES and COMMUNICATION LINKS



Senegal: RAINFALL and POPULATION

Source: World Bank



A.I.D PROGRAMS IN SENEGAL