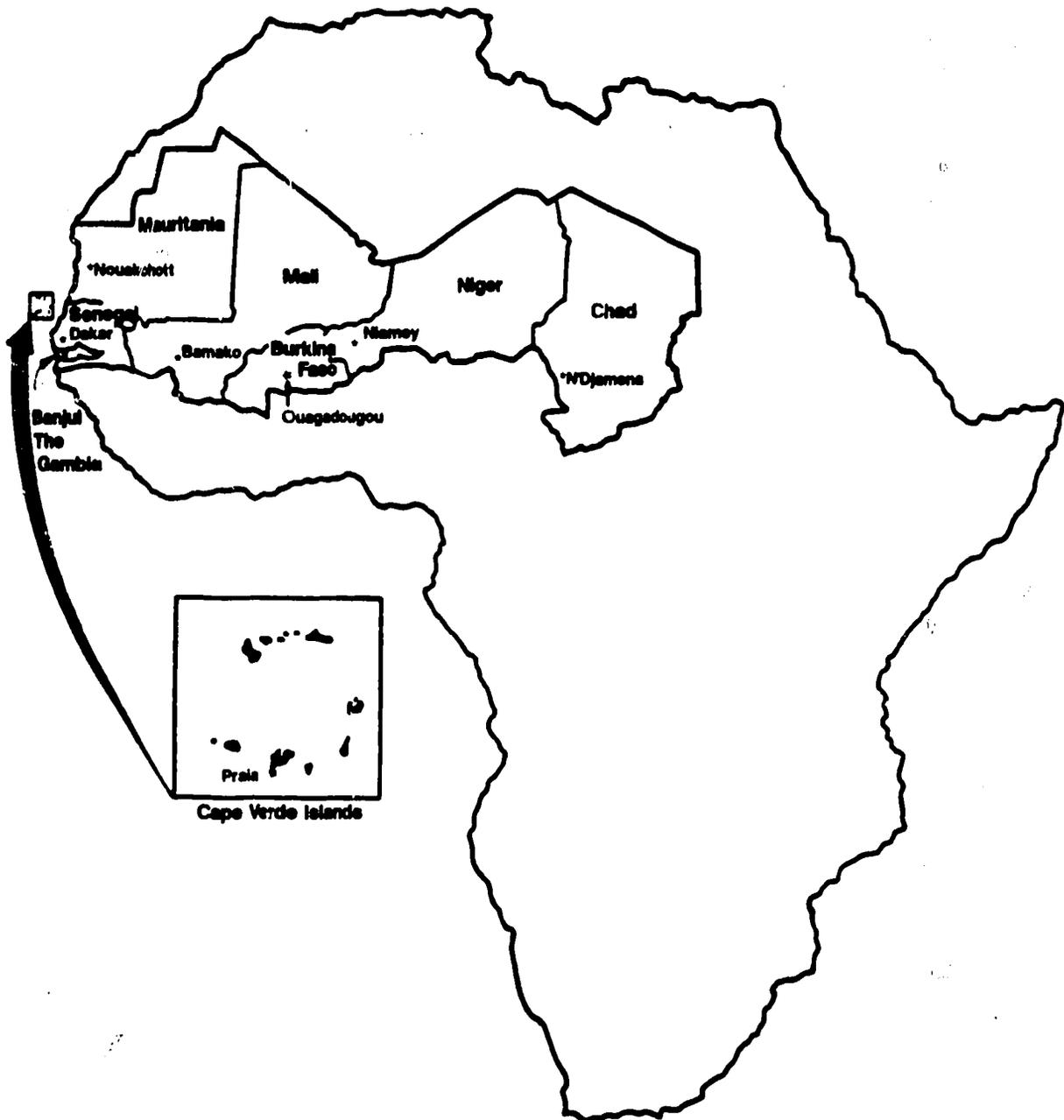


Sahel Development Program: 1986-1988 Report to Congress



Washington, D.C.
June, 1989

Countries of the Sahel



**SAHEL DEVELOPMENT PROGRAM
1986-1988 REPORT TO CONGRESS**

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SAHEL DEVELOPMENT PROGRAM CHRONOLOGY

- 1968-73 First major Sahel drought brings need for large-scale assistance program to attention of world community
- 1973 Ministers of Burkina Faso, Chad, Mali, Mauritania, Niger, Senegal meet to declare drought emergency and launch aid appeal, and form committee to coordinate relief (CILSS)
- CILSS officially created by Sahelian Heads of State meeting in Ouagadougou, Burkina Faso
- Gambia joins CILSS
- Congress affirms support for a U.S. Sahel Development Program and authorizes \$25 million for emergency relief, consultation and program development
- 1974 Congress appropriates \$129 million for food, emergency relief and rehabilitation; A.I.D. launches Relief & Rehabilitation Program (\$2-3 million per country)
- First Sahel Mission Director's Conference held in Niamey, Niger
- 1975 Congress approves \$5 million for planning, consultation and program development, and \$68 million for Sahel development
- 1976 Club du Sahel donors' group created; first Club/CILSS meeting held in Dakar, Senegal
- A.I.D. submits "Proposal for a Long-Term Comprehensive Development Program for the Sahel" to Congress
- Cape Verde joins CILSS
- 1977 "Proposals for a Strategy for Drought Control and Development in the Sahel" and portfolio of "first generation" projects developed by Club-CILSS working groups, approved at CILSS Council of Ministers meeting in Ouagadougou and at second Club/CILSS meeting in Ottawa, Canada
- International Development Assistance Act of 1977 authorizes \$200 million for A.I.D. Sahel Development Program
- 1978 Third Club/CILSS meeting in Amsterdam, The Netherlands
- A.I.D. Sahel Development Program begins with \$50 million appropriated for first year
- 1979 First Cereals Policy Colloquium held in Nouakchott, Mauritania
- a

- 1980 Fourth CILSS/Club meeting held in Kuwait; review of drought control/development leads to strategy revision emphasizing environment and ecology
- 1981 Congress requires host country controls over Sahel funds (Section 121 [d]); A.I.D. Inspector General audits conducted and improved financial management systems implemented
- 1982 CILSS Heads of State meeting in Praia, Cape Verde, create committee to review progress of Sahel development efforts
Regional symposium on recurrent costs held in Ouagadougou, Burkina Faso
- 1983-85 Second major Sahelian drought demonstrates progress made in early warning and rapid response capabilities
- 1983 Fifth Club/CILSS meeting in Brussels, Belgium, focuses on slow progress toward program goals; CILSS and Club undertake comprehensive reviews
A.I.D. initiates Sahel management and program assessments
- 1984 Club du Sahel develops revised long-term strategy, which is adopted by CILSS Council of Ministers
A.I.D. defines revised Sahel Development Program Strategy
- 1985 Club/CILSS forms Network for the Prevention of Food Crises
Sixth Club/CILSS meeting held in Milan, Italy; creation of Donors' Advisory Group proposed
Revised CILSS mandate adopted by Council of Ministers
- 1986 Guinea-Bissau joins CILSS
Club du Sahel Donors' Advisory Group created to review Club progress and advise on policy; first meeting held in Ottawa, Canada
Cereals Policy Conference held in Mindelo, Cape Verde
- 1987 Club-sponsored "Futures Study" completed, targeting directions for the next generation of Sahel development
Second meeting of Donors' Advisory Group held in Bern, Switzerland
President's Initiative to End Hunger launched
- 1988 Seventh Club/CILSS meeting held in N'Djamena, Chad
Congress creates the Development Fund for Africa, for all of Sub-Saharan Africa including the Sahel
Third meeting of Donors' Advisory Group held in Tucson, Arizona
- 1989 May: Club/CILSS Segou Roundtable on the Local-level Management of Renewable Natural Resources in the Sahel

GLOSSARY OF ACRONYMS

ADRA	Adventist Development and Relief Association (U.S. PVO, ex-SAWS)
AELGA	African Emergency Locust and Grasshopper Assistance (A.I.D.)
AEPRP	African Economic Policy Reform Program (A.I.D.)
AGRHYMET	Center for Agro-Meteorological and Hydrological Data (Fr. acronym)
AFGRAD	African Graduate Fellowship Program (A.I.D.)
AIP	Accelerated Impact Program (A.I.D.)
APS	Agriculture Production Support Project (A.I.D.)
ASDG	Agriculture Sector Development Grant
BCEAO	Central Bank of West African States (Fr. acronym)
CARE	Cooperative for Relief Everywhere (U.S. PVO)
CCCD	Combating Communicable Childhood Diseases
CDC	Center for Disease Control
CDSS	Country Development Strategy Statement (A.I.D.)
CERPOD	Center for Study and Research on Population and Development (Fr.)
CGEM	General Federation of Mauritanian Employers (Fr.)
CILSS	Permanent Interstate Committee on Drought Control (Fr.)
CP	Congressional Presentation (A.I.D.)
CRS	Catholic Relief Services (U.S. PVO)
CSA	Food Security Commission (Mauritania, Fr. acronym)
CWA	Coastal West Africa
CY	Calendar Year
DAC	Development Assistance Committee (OECD)
DAG	Donors' Advisory Group (Club du Sahel)
DFA	Development Fund for Africa (A.I.D.)
ECOWAS	Economic Community of West African States
EOP	End of Project
ERP	Economic Recovery Program
ESF	Economic Support Fund (A.I.D.)
FAA	Foreign Assistance Act (U.S. Congress)
FAO	Food and Agriculture Organization
FEWS	Famine Early Warning System
FFW	Food for Work
FGP	First Generation Projects/Program (Club/CILSS)
FLUP	Forestry and Land Use Planning (Niger)
FY	Fiscal Year
GARD	Gambia Agricultural Research and Diversification project
GDP	Gross Domestic Product
GIRM	Government of the Islamic Republic of Mauritania
GOBF	Government of Burkina Faso

GOC Government of Chad
GOCV Government of Cape Verde
GON Government of Niger
GOS Government of Senegal
GOTG Government of The Gambia
GRM Government of The Republic of Mali

HRDA Human Resources Development Assistance (A.I.D.)

IBRD International Bank for Reconstruction and Development (World Bank)
ICRISAT International Center for Research in Semi-Arid Tropics
ILO International Labour Organisation (UN)
IMF International Monetary Fund
INSAH Sahel Institute (Fr. acronym)
INTRAH International Training and Health

JHPIEGO John Hopkins Program for Int'l. Ed. in Gynecology and Obstetrics

MCH Maternal and Child Health
MT Metric Ton

NBA Niger Basin Authority
NDDII Niamey Department Development II (Niger)
NDP National Development Plan
NOAA National Oceanic and Atmospheric Administration
NPA Non-Project Assistance
NRMS Natural Resources Management Support project (A.I.D.)

OCLALAV Organization to Fight Grasshoppers and Aviary Pests (Fr. acronym)
ODA Official Development Assistance
OECD Organization for Economic Cooperation and Development
OHV Operation Haute Vallée (Mali, to become DHV in FY 1989)
OICMA International Organization to Fight Migratory Locusts (Fr. acronym)
OMVG Gambia River Basin Authority (Fr. acronym)
OMVS Senegal River Basin Authority (Fr. acronym)
OPG Operational Program Grant (A.I.D.)
ORT Oral Rehydration Therapy
OCALAV Organization for Rehabilitation and Training (U.S. PVO)

PACD Project Assistance Completion Date (A.I.D.)
PCV Peace Corps Volunteer
PHC Primary Health Care
PPPD Promoting Population Policy Development project
PRMC Cereals Marketing Restructuring Program (Mali, Fr. acronym)
PVO Private and Voluntary Organization

RAPID Resource Analysis for Population in Development

d.

SDP Sahel Development Program
SHRD Sahel Human Resources Development
SMAT Sahel Management Assessment Team (A.I.D.)
SMDF Sahel Manpower Development Project (A.I.D.)
SPA Small Program Assistance (A.I.D./Peace Corps)
SPI Sahel Population Initiatives (A.I.D.)
SRFMP Sahel Regional Financial Management Project (A.I.D.)
SRI Sahel Regional Institutions project (A.I.D.)
S&T Science and Technology (A.I.D.)
SWMU Soil and Water Management Unit (Gambia)

UNFPA United Nations Fund for Population Activities
UNSO United Nations Sahel Office
USEED Socio-Economic and Demographic Unit (Fr. acronym; now CERPOD)

VITA Volunteers in Technical Assistance (U.S. PVO)

WAMU West African Monetary Union

e-

Introduction and Summary

In 1968, the attention of the Western world was focused on Prague, Vietnam, campus uprisings, Kennedy, King, and one corner of Africa devastated by civil war and famine: Biafra. The same year marked the quiet beginning of another catastrophe in Africa that, by its end in 1974, would leave up to 100,000 dead, millions of refugees and a wide belt of farmland and pasture turned into desert. The enemy this time was drought: repeated failure of yearly rains that control the balance between harvest and famine in the ecologically-precarious region of West Africa known as the Sahel. Livestock losses--up to 100% in parts of Mauritania--killed a vital source of food and income. Cereals production decreased by as much as 68%, making the region dependent on imported food supplies. Cholera re-appeared, endemic diseases increased and the mortality rate rose as high as 7%. The dramatic situation was publicized by images of malnourished and dying refugees, lunar landscapes, dead cattle, and foot-soldiers in the international relief effort that provided 1.5 million MT of emergency food supplies. But the long fight for Sahelian food security went largely unreported.

Six of the hardest-hit countries joined forces in 1973, creating the Permanent Interstate Committee for Drought Control in the Sahel (CILSS), to coordinate reconstruction and long-term development. Three years later, international donors forged a similar alliance, the "Club of the Friends of the Sahel," to support the work of the CILSS. And in 1977, Congress authorized \$200 million for a U.S. "comprehensive, long-term African Sahel Development Program" (Sec. 494B, Foreign Assistance Act). Together Club/CILSS members drew up a battle plan to win regional food self-sufficiency and economic growth, a 25 year strategy and program of research, policy review and projects in agriculture, health, education, ecology and infrastructure. Results were reviewed and tactics revised in regular meetings; implementation provided lessons for improving management and reforming policies.

When drought struck again in 1983-85, even more severely than in the 1970s, coordination, greatly improved infrastructure and ten years of experience by Sahelian and donor nations enabled more timely delivery of food supplies, significantly reducing the number of refugees and casualties.

In the 20 years since the drought began, 15 since the CILSS was created and just over 10 years since A.I.D.'s Sahel Development Program was launched, the enemies of the Sahel--drought, disease, hunger, poverty--have not been vanquished, but have been brought under some measure of control:

- o Rainfall levels have declined, but creation of a Sahelian weather and water data collection center, AGHYMET, provides data for country-level Famine Early Warning Systems. Such data enabled early reaction by Sahelians and donors to the 1983-85 drought.
- o Crop production repeatedly is threatened by pests, but losses have been reduced through "greenness mapping" to track grasshopper and locust swarms and plan spraying campaigns. In 1986, quick response in Mauritania limited damage from grasshoppers to 10% of the crop.
- o Per capita food production has declined, but applied research, extension projects and regional studies have generated measures to increase yields per arable hectare that hold promise for eventually reversing these declines.

Varietal research in the Haute Vallee in Mali has yielded 4.2% increases for millet and 11.6% for maize, and improved grain varieties have been extended to farmers, along with improved soil and water management techniques in Cape Verde. Yield increases in Senegal, Burkina Faso, and Niger can also be attributed to the adoption of conservationist land management techniques.

- o Long-term desertification trends continue, but effective reforestation, range management and dune stabilization techniques have been developed and show promise as replicable models. In Niger's Majjia Valley, windbreaks have stemmed erosion and millet yields have increased by up to 17%.
- o Population continues to increase, but programs to cope with higher growth rates have been established. New national family planning legislation have been passed in a number of countries and nation-wide programs begun. Senegal approved a national population policy statement, developed with A.I.D. technical assistance and supported by a project that helped increase contraception use among couples by 275% from 1985-1987.
- o Health problems persist, but in the past decade life expectancy has increased by about eight years and child mortality has decreased by about 25 deaths per 1,000. A.I.D. projects that supported national immunization campaigns against childhood diseases in Burkina Faso and Mauritania, and training of 9,000 new health workers in Niger helped contribute to these advances.
- o Total Sahelian debt has increased, but every country has implemented innovative fiscal controls on the public sector (most with the help of A.I.D. non-project support). The Gambia has simplified tax codes, reduced preferential treatment to parastatals and let the market determine prices; GDP grew by 6% in 1987, reversing the previous downward trend, and agricultural incomes grew by 9%. In Senegal, food processing and sales are being privatized and the tax system reformed; growth in GDP has averaged over 4.2% annually for the past three fiscal years.

A decade of battling against centuries of adversity has helped slow demographic, environmental and economic regression. And valuable experience has been won in the fight. Industrialized donors and African nations with differing priorities and perspectives have learned to communicate and work together, evidenced by:

- o Frank discussion on sensitive issues such as cereals policy in the forum of the Nouakchott and Mindelo Cereals conferences, which have led to country-level policy dialogue and reform. A.I.D. has contributed project and non-project resources to a successful multidonor Cereals Restructuring Program in Mali that has encouraged abolition of official prices and government monopoly of marketing.
- o Cooperation of over 20 donors during the past two decades, in the eradication of river blindness that has plagued large expanses of the Sahel. Over 670,000 sq km have been sprayed, opening formerly uninhabitable lands for settlement. The United States has been active from the beginning, and is playing a critical role in drug research.

The decade of the A.I.D. Sahel Development Program represents roughly one third of the "contract for a generation" accepted by Club and CILSS members. In the FY

1978-87 period, \$850 million were committed from SDP funds and \$138 million from Economic Support Funds (ESF). A.I.D. has used these funds to help overcome basic constraints in:

- o Education, concentrating on training to strengthen agriculture, health and management. Over 1,500 Sahelians were trained through SDP programs alone, creating a cadre of demographic, economic, agronomic, meteorological and health analysts, researchers and technicians. A.I.D. also focused on adult education and extension, through efforts such as the Senegal Agricultural Development Assistance Project that taught over 3,000 farmers to read. Such efforts contributed to a doubling of literacy rates over the past decade.
- o Infrastructure, supporting road construction and maintenance in Mauritania, Chad, Mali and Burkina Faso, as well as construction of grain warehouses that facilitated distribution of emergency food supplies during the 1983-85 drought. In addition, A.I.D. has helped create a central veterinary facility in Mali that produces vaccines for domestic use and export, clinics and rural health posts in areas of Senegal and Niger formerly cut off from medical services, and a Sahel-wide network of groundwater monitoring posts that enables collection of forecasting data.
- o Information, helping create entities that can generate and analyze a body of reliable Sahelian data, such as the socio-demographic unit in the Sahel Institute that has developed the largest data base on infant and child mortality. A.I.D.-supported research has been conducted in all of the Sahelian countries, including on-farm trials to generate higher-yielding maize-millet intercropping systems in Mali and improved sweet potato and rice varieties in Cape Verde and Senegal. A.I.D. studies have provided the basis for economic reform recommendations in Senegal and the Gambia, and management reorganization guidelines for river basin authorities and the CILSS Secretariat.

In the process, we have come to know the terrain and read its signs. We have shifted our sights from short-term relief to longer-term development, and concentrated our forces on selected fronts. The revised A.I.D. Sahel Program focuses on promoting economic growth through a phased, long-term process of structural adjustment and carefully chosen, complementary project activities in agricultural research and production, environmental protection, human resource development and critical infrastructure. A.I.D. can develop more responsive programs in these areas, based on successes that include:

- o a model for other African countries to reduce public sector expenditures, through an innovative Voluntary Early Retirement Program that has provided bonuses, loan guarantees and business advice to over 200 retiring civil servants as part of Mali's Economic Recovery Program;
- o a Rural Water Supply project in Burkina Faso that linked health training with provision of over 660 wells;
- o a Watershed Management Project in Cape Verde that provides a formula for community self-help in conservation, employing 4,000 people in construction of soil-saving dams and planting of over 2.4 million trees;

- o introduction of alternative income-generating cash crops that fit into the existing cropping season, as in the Gambia, where sesame seed production doubled from 1986 to 1987;
- o improved cookstoves, such as the portable metal models developed by VITA in Mali, that use up to 50% less wood and are being promoted by government decree;
- o a low-cost model for road construction in Africa, based on the 233 kilometer Kaedi-Selibabi road in Mauritania, completed ahead of time and \$8 million under cost;
- o a model for government-private sector natural resources management generated by Niger's Forestry and Land Use Planning Project, which has created a woodcutter's cooperative for controlled harvesting of wood and fodder in the Guessebodi National Forest; and
- o a framework for encouraging private sector participation in economic revitalization, through loan funds to small entrepreneurs in Chad, Mali, and most recently through a Community and Enterprise Development Project in Senegal that lends to small entrepreneurs ineligible for commercial bank loans, at a 98% repayment rate.

The A.I.D. SDP was appropriate for an initial, intensive infusion of assistance. But an evolution in strategy requires new mechanisms for assistance delivery; this was provided in the Development Fund for Africa created by Congress at the beginning of FY 88. The inclusion of the Sahel in a fund for all of Africa without functional accounts allows unparalleled flexibility in mobilizing resources. These resources are to be used to promote environmentally-sustainable agricultural production, health and family planning, education, employment generation and private sector development at the policy and program levels.

In compliance with SDP statutory reporting requirements, this report covers the allocation of the U.S. contribution to the Sahel program and contributions from other donors, the effectiveness of the Club du Sahel and progress made in achieving the objectives of the program. But this report is not simply a look backward: the beginning of the DFA does not imply the end of an A.I.D. Sahel development strategy and program, or an end to U.S. participation in the Club/CILSS Sahel Development Program. This report also looks forward, to building on lessons learned and initiatives begun under the SDP, and using the resources of the Development Fund for Africa to continue U.S. involvement in the ongoing fight for Sahelian development.

Chapter I, Sahel Development Program, from 1986-1988 focuses on a period when transition to long-term development has been consolidated, A.I.D.'s shift to a new program approach linking project interventions with policy reform is almost complete, and the CILSS has begun operation under its new "think-tank" mandate. The chapter covers incorporation of the A.I.D. SDP into the DFA, describing how the new program uses a combination of non-project resources (DFA, ESF and P.L. 480) and traditional project assistance mechanisms. It highlights funding trends, the current focus on policy reform to stimulate agricultural and economic growth, development of natural resource management plans and assistance in developing policies and programs to reduce population growth and infant mortality. Developments in Sahel regional, centrally-funded and Africa regional programs are

followed by individual country profiles that cover use of these resources, milestones, start-ups and close-outs over the past two fiscal years. The chapter ends with Club/CILSS activities, including two Club du Sahel Conferences, the creation of a Donors' Advisory Group to support Club/CILSS activities, the second major Cereals Conference of the decade in Mindelo, Cape Verde (1986), and publication of a "Futures Study" on prospects for the Sahel. This study focused attention on the need to develop more modern States where the general population can participate more actively and where more authority is devolved to the rural world.

Chapter II, a look back, is a longer-term retrospective of the decade of Sahel Development, and the events that led to creation of the CILSS, the Club and A.I.D.'s Sahel Development Program. The events are first cast in the geographic, ecological, social and economic context of the Sahel that gave rise to factors which rendered the sub-region vulnerable to the Great Drought of 1968-73. The crisis is described in terms of agro-pastoral and environmental destruction, damage to the health and welfare of sedentary and nomadic populations, and growing social and economic instability. These factors led to union of the Sahelian countries and an appeal to the international community for assistance, described in separate sections on the creation of the CILSS, the Club du Sahel and A.I.D.'s Sahel Program. Their mutual and specific priorities and strategies are covered, followed by a look at how the three entities have adapted separately and together to changing needs as the base of knowledge and field experience grows. The section reviews the process that led to improved financial management of A.I.D. funds, and highlights the Club/CILSS and A.I.D. Revised Strategies.

Chapter III, the results, looks at the 10 years of U.S. assistance under the SDP, and Club/CILSS collaboration, with special attention to early experience that fostered evolution of the program. The unique contributions of A.I.D.'s SDP in policy reform, financial management and attention to population, private sector and natural resources issues are addressed. The Club/CILSS framework has been instrumental in promoting sector studies and strategy development, communication and coordination, and increased funding that has generated a knowledge and institutional base. Together, these factors have enabled Sahelians and donors to better cope with natural and man-made disasters, and to attack long-term, underlying policy constraints. An account of the 1983-85 drought is used to illustrate how experience in data collection and analysis, infrastructure development and collaboration helped avert a catastrophe greater than the 1968-73 crisis. Finally, the chapter covers donors' response and specific accomplishments in the principal sectors targeted in the Sahel strategies: agriculture, livestock, ecology/forestry, health, human resources and infrastructure, featuring individual gains and lessons that give cause for "cautious optimism."

Chapter IV, a look forward, analyzes the events and strategies that will guide the Club, CILSS and A.I.D. through the 1990's and into the next century. The tone for the future was set at the third meeting of the Donors' Advisory Group, hosted by the United States in Tucson, Arizona, in December 1988, which addressed issues raised in the Futures Study, including increased participation and regional integration of the Sahel with the rest of West Africa. Major natural resource management policy reforms were identified at the CILSS/Club rural ecology roundtable of May 1989 in Segou, Mali. More liberal markets and promotion of a wider West African linkages will be the focus of Club and CILSS conferences in 1990. The Chapter concludes with sector and country plans that will guide A.I.D.'s Sahel activities in the coming years.

I. 1986-88: A PERIOD OF TRANSITION

A. Overview

The past two years represent a transitional phase for the U.S. assistance program to the eight CILSS countries*, from more of an emphasis on drought and famine prevention and short-term relief, particularly during the 1983-85 drought period, back to longer-range development. At the same time, the CILSS/Club community has shifted its attention from the present to the future, from immediate disaster to chronic policy problems.

The Sixth and Seventh Club Conferences were held during this period, allowing members to discuss new strategy and program objectives that emphasize policy reform to mobilize local involvement in rural development, revive the Sahelian economy particularly in the agriculture sector, and control increasing population and dwindling natural resources. The 1986 Mindelo Cereals Conference and individual population colloquia in a number of countries provided opportunities to concentrate on specific, critical policy areas.

This has been a time of institutional transition for A.I.D. as well as the CILSS and the Club. The Development Fund for Africa (DFA) and the President's 1987 End Hunger Initiative reintegrated A.I.D.'s Sahel program into the larger Africa program, increasing funding and programming options. With declining aid flows and budget reduction mandates, A.I.D. has streamlined portfolios and used new combinations of bilateral and non-project assistance to carry on its efforts. A reorganized CILSS has begun operating under a new mandate, focused on the study of regional problems to promote integrated planning among member states. A Donors' Advisory Group (DAG) has been created to advise the Club, providing added support for joint planning and review.

The shift to a new program approach has linked project interventions with policy reform. Non-project assistance conditioned on liberalization of markets, tax reform and private sector incentives have contributed to positive growth in Senegal and the Gambia for the first time in years. Support for demographic studies and seminars have led to the first strong family planning policy statements and legislation in Niger, Senegal, Mali and Chad. Natural resource management plans have begun with assessments of current policies and projects in Niger, Mali, the Gambia and Senegal.

Progress comes slowly in the wake of drought. Nonetheless, Senegal, which has had a successful Economic Reform Program since FY 1986, is averaging about 4% annual growth. The Gambia is averaging about 5.4%, and has been able to achieve an increase in average per capita incomes. Mali and Niger have undertaken major reforms in their tax systems, which will provide improved incentives to their business communities. In seven CILSS countries, life expectancy has increased by an average of eight years since the early 1970s.

* Burkina Faso, Cape Verde, Chad, Gambia, Mali, Mauritania, Niger, Senegal. Guinea-Bissau, admitted in 1986, is not part of A.I.D.'s Sahel Development Program, and thus is not covered in this report.

B. The A.I.D. Sahel Development Program (SDP)

The most significant event in this period is the passage of the Development Fund for Africa (DFA) appropriation legislation in December 1987. The Initiative comprises five elements:

- o encouragement of a competitive private enterprise system to catalyze African economic growth and development;
- o mobilization of U.S. PVOs and private businesses to help develop private African organizations;
- o better use of food aid to support policy reform, reduce debt burdens and stimulate self-help activities;
- o closer coordination among donors; and
- o a more flexible funding mechanism for delivering assistance.

The mechanism is a \$500 million Development Fund for Africa in FY 1989, created without earmarks for functional accounts. It combines non-project assistance used for policy reform with project funds for economic development assistance activities, especially environmentally-sustainable agriculture, health and family planning, education and institutional development, income and employment generation. This provides a new flexibility for tailoring programs to country needs, and moving funds to countries and programs that demonstrate promise and progress in stimulating economic growth.

Modelled in part on the SDP, the DFA incorporates the goals of the current Club and A.I.D. Sahel strategies, concentrating non-project and project investments on efforts to:

- o reduce government control of the private sector;
- o stimulate market development and investments;
- o develop the means to increase agricultural production;
- o stem erosion of the natural resource base;
- o slow the rate of population growth; and
- o create an appropriate education system.

A.I.D.'s support to the Sahel decreased after the 1983-85 drought, until it rose again in FY 1988. Non-project assistance has risen as shown in the following table:

1. Funding during the FY86-88 Period

Table 1

SDP/DFA and ESF Obligations, FY 1986-FY 1988 (\$ millions)

	FY 1986		FY 1987		FY 1988	
	SDP	ESF	SDP	ESF	DFA*	ESF
Burkina Faso	6.8	-	1.6	-	1.9	-
Cape Verde	2.6	-	1.0	-	2.5	-
Chad	4.0	9.5	4.0	5.0	6.0	10.0
The Gambia	4.0	-	2.5	6.0**	3.8	-
Mali	9.0	-	7.3	-	19.5**	-
Mauritania	3.0	-	1.8	-	3.0	-
Niger	16.0	4.4	19.5	2.0	33.7**	-
Senegal	19.4	27.5**	17.8	12.0	23.5	-
Sahel Regional	<u>20.4</u>	<u>0.6</u>	<u>24.5</u>	<u>-</u>	<u>7.1</u>	<u>-</u>
Sub-totals	85.2	42.0	80.0	25.0	101.0	10.0
Totals	127.2		105.0		111.0	

* SDP funds are incorporated into DFA as of FY 1988; country totals include buy-ins to Regional projects

** Includes multiyear AEPRP funding

Overall, SDP funds have stayed under the mandated limit of 10% of total donor assistance. Sectoral funding priorities follow A.I.D.'s Revised SDP Strategy, as reflected in the comparison of FY 1986, FY 1987 and FY 1988 sectoral allocations below:

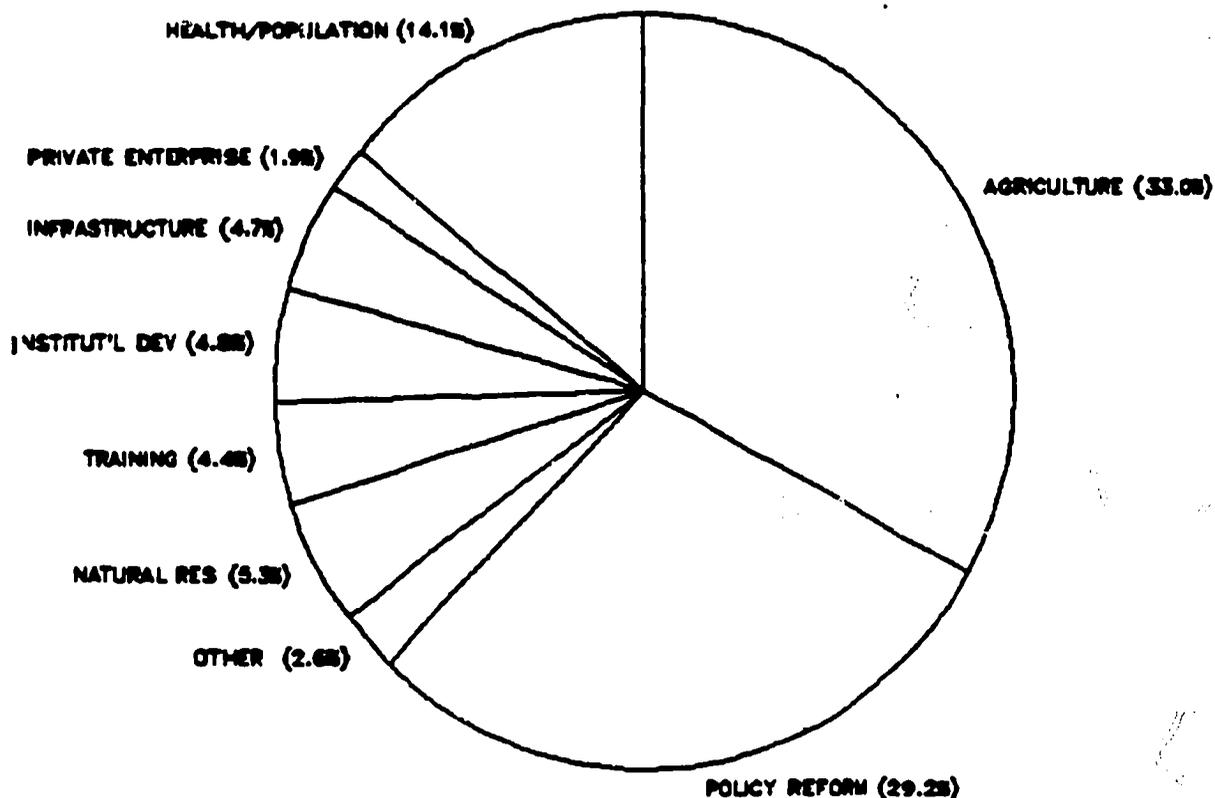
Table 2

Sectoral Allocations in Sahel FY 1986, 1987, and 1988

SECTOR	FY 1986		FY 1987		FY 1988	
	AMT (\$ mil)	%	AMT (\$ mil)	%	AMT (\$ mil)	%
Agriculture	38.8	31%	41.4	43%	32.3	29%
Policy Reform	48.0	38%	21.0	22%	30.6	28%
Health/Population	12.5	10%	14.3	15%	13.6	12%
Natural Resources	5.8	5%	4.8	5%	7.6	7%
Training	4.0	3%	5.0	5%	6.0	5%
Institutional Development	3.4	3%	4.0	4%	9.1	8%
Infrastructure	4.1	3%	4.8	5%	7.0	6%
Private Enterprise	4.3	3%	4.3	0%	1.8	2%
Other	<u>6.3</u>	<u>5%</u>	<u>5.4</u>	<u>0%</u>	<u>3.0</u>	<u>3%</u>
TOTAL	127.2	100%	105.0	100%	111.0	100%

SECTORAL ALLOCATIONS

FY 86 - FY 88



2. Sahel Regional Activities, FY 1986-FY 1988

A.I.D. renewed its commitment to donor-Sahelian collaboration in FY 1987, with a new, \$5-million Sahel Regional Institutions project (625-0975) to replace the Sahel Regional Aid Coordination and Planning project (625-0911). The project continues support to the Club and CILSS Executive Secretariats, especially the CILSS' reorganization, the joint work planning process and DAG activities, as well as on-going studies and related conferences. Although A.I.D. joined other donors in cutting funds for the Sahel Institute (INSAH), new commitments to the other CILSS special institutes have been made in this period:

- AGRHYMET. Phase III of Sahel Water Data Network and Management (625-0973) began in FY 1987, extending over a decade's support for AGRHYMET, the center for agro-meteorological and hydrological data collection, analysis and dissemination. The new effort will concentrate on upgrading computer capability for vegetation index data and rainfall probability maps vital in drought forecasting. Also, it will help integrate AGRHYMET and the new African Center of Meteorological Applications for Development. This project complements the FEWS with essential data resources;

- o CERPOD. Until last year, the SDP was supporting **Demographic Data Collection and Analysis** (625-0297) through funding for INSAH's socio-economic unit. Studies, training and technical assistance delivered through the project have provided key information for development of population policies in Sahelian countries. On the basis of its achievements, the unit was upgraded to a full-scale center for population research (CERPOD), which began receiving support for a five-year **Promoting Population Policy Development (PPPD)** project (625-0978) as of FY 1988.

At the same time, assistance to sub-regional institutions charged with river basin development has declined, prompted largely by a 1986 audit of A.I.D. participation in three programs which indicated that organizational weaknesses in the managing bodies prevented effective use of A.I.D.-funded studies. As a result, assistance to **Niger River Basin Development** (625-0944) was terminated in FY 1986, and a number of Senegal and Gambia river basin development activities were phased out. Selected projects are continuing:

- o **OMVG Development** (625-0012) has been extended to complete training and natural resources laboratories;
- o the **OMVS Planning and Policy Development** project (625-0621) will continue capacity-building activities (e.g., funding a 1986 study guiding the current administrative reorganization of OMVS and a macro-economic analysis for a Senegal River Valley master plan);
- o **OMVS Groundwater Monitoring** (625-0958) is extending a network of data collection points to establish an early warning system; and
- o the **Manantali Resettlement** project (625-0955) is completing housing and infrastructure for 10,000 people displaced by dam construction.

Regionally funded SDP projects have helped individual countries implement priority policy and project actions in a number of areas:

Policy Analysis

The **Sahel Policy Analysis** project (625-0970) began in FY 1985, and provided technical assistance for activities to support AEPRPs and health sector reform. In 1985-87, for example, studies of agricultural input marketing in the Gambia and production/trade analyses in Senegal have formed the basis for policy recommendations to the respective governments. The **Planning Management and Research** project (625-0929) was used to fund natural resource assessments in four countries this year as a basis for resource management action plans, and to develop projects to support policy reform. PM&R activities were subsumed under **Regional Project Development and Support** in FY 1988.

Health and Population

The **Onchocerciasis Control** program (625-0966) entered its third phase in FY 1986, continuing U.S. participation in the successful international effort to eradicate river blindness (see box, Chapter III). The project is supporting

expansion into new areas of the infested zone, which includes four Sahelian countries, and related drug research. The Sahel Population Initiatives project (625-0969) has helped a number of countries develop policies and initiate national family planning programs since FY 1985 (see country profiles). Although funding ended in FY 1987, project activities will continue for two more years, reinforced by the PPPD project.

Agriculture and Ecology

The OMVS Agriculture Research project (625-0957) which ended in FY 1987, contributed to a computerized research data base for river basin farming, complementing agricultural research in individual countries. Two SDP-funded projects have helped respond to pest infestations in the past two years. The Integrated Pest Management project (625-0928), which ended in FY 1987 after over a decade of action, combined crop protection research with eradication campaigns. The FY 1987 African Emergency Locust and Grasshopper Action project (625-0517) funded spraying offensives as well as "greenness mapping" to monitor potential infestations of locusts and grasshoppers. In 1988, AELGA funds have been used for pesticides and mapping which, combined with country operating year budget (OYB) and other development assistance funds, have enabled the United States to join multidonor emergency actions in Cape Verde, Chad, the Gambia, Mali, Mauritania, Niger and Senegal.

Human Resources Development

In FY 1986, training and manpower development activities were consolidated into a Sahel Human Resources Development III (625-0977) project, with new emphases on training women and utilizing more African institutions. Since it began, traditional, long-term U.S. degree programs have been complemented by training in Senegal, Ivory Coast, Morocco and Tunisia. In-country seminars have covered management (Burkina, Cape Verde), small business accounting (Mali, Senegal) and human resources development for local agencies. Under the DFA, SHRD III and previous projects were incorporated into Africa's \$70 million, five-year Human Resources Development Assistance Program, and A.I.D. mission buy-ins began this year (Sahel buy-ins were \$3.8 million, of a Regional \$13.4 million total).

Financial Management

The Sahel Regional Financial Management Project (625-0974) entered its second phase in FY 1986. Systems for accounting and management of A.I.D. funds have motivated host governments to seek training and technical assistance under the new project. In the past year, the GOS has signed into law an inventory accounting system designed by the project. Ministry of Agriculture personnel in Burkina Faso have been trained to use the project-designed accounting system being instituted in all regional development organizations, and the project has provided training and assistance to a group of professors at the University of Chad who have begun a consulting firm.

3. Regional and Centrally-Funded Activities, FY 1986-FY 1988

The DFA completes the integration of the Sahel into Africa Region programs, effected in recent years through inclusion of the Sahel in A.I.D.'s Africa Bureau strategies and use of central Science & Technology (S&T) and Regional program resources, illustrated by the following examples.

Policy Reform

The African Economic Policy Reform Project (AEPRP) began in FY 1985 as an Economic Support Fund (ESF) experiment to encourage economic restructuring. Participation was limited to countries with a demonstrated commitment to policy reform. Mali was one of the first five countries to begin an AEPRP, which complements a multidonor cereals restructuring effort, and was joined by Senegal in FY 1986, the Gambia in FY 1987 and Niger in FY 1988. P.L. 480 Title II Section 206 programs also have been tools of agricultural sector reform in Mali, Mauritania and the Gambia.

Agricultural Research

The "Plan for Supporting Agricultural Research and Faculties of Agriculture in Africa," drafted in 1985, aims at strengthening agricultural research systems in eight core countries. Senegal was targeted as a "technology-producing" country for priority support, to build its relatively strong manpower, financial and food-crop bases into a research center for the Sahelian ecological zone. Mali, Niger, Burkina Faso and the Gambia are grouped with more promising "technology-adapting" countries, appropriate for long-term support to agricultural institutions through staff training and research programs in selected staple foods.

Natural Resource Management

The A.I.D. Africa Bureau's 1987 "Plan for Supporting Natural Resources Management in Sub-Saharan Africa" targeted priority countries for special efforts to replicate promising management and conservation measures. Mali, Niger, the Gambia and Senegal were among the eight countries where assessments of activities for possible replication were carried out in 1987-88. On the basis of these assessments, action plans will be developed with assistance from the Natural Resources Management Support project (NRMS). The Famine Early Warning System (FEWS) project began in 1985, and has created a drought data network for all of Africa by building country-level monitoring capability that has helped Chad, Niger, Burkina Faso and Mali, inter alia, avert food crises and massive migrations. FEWS monitors many indicators important in natural resource planning.

Rural Development and Peace Corps Collaboration

In Sahelian countries with Peace Corps (PC) programs, the joint A.I.D./PC Small Project Assistance program (SPA) has been used to fund a wide range of agriculture, water, health and small business development activities. Peace Corps returned to Chad in 1987, and a new program is about to begin in Cape Verde, reestablishing PC presence in all Sahelian countries except Burkina Faso (which nevertheless had SPA programs through FY 1987). In FY 1986-88, about 175 projects, representing nearly \$375,000 in SPA funds were supported in the Sahel countries.

Health and Population

The 1987 Africa Bureau Child Survival Strategy identified eight emphasis countries that include Mali, Niger and Senegal, based on population, infant/child mortality rates, government commitment to child survival and other critical factors. Project activities include oral rehydration and immunization efforts, child spacing, anti-malaria and anti-AIDS campaigns, famine relief and nutrition, and training of health personnel. Sahel countries have been carrying on some of these activities since FY81, through the Africa Child Survival Initiative (CCCD project) and the centrally-funded Child Survival Fund (including the Oral Rehydration Therapy (ORT)/Pritech project). Others were funded through the Strengthening Health Delivery Systems Program.

Since 1980, Niger, Senegal, Gambia, Burkina, and Chad have developed population policies or legislation, in part an outgrowth of S&T projects that provided data and training to health planners and practitioners (e.g., Resource Analysis for Population in Development (RAPID) presentations, Johns Hopkins Program for International Education in Gynecology and Obstetrics (JEPiGO) and International Training and Health (INTRAH). The new Africa Region population strategy has targeted Mali as a Priority I country, based on unmet needs for services, government commitment and population.

Education

The 1988 Africa Bureau Basic Education Action Plan targeted Mali among its priority countries, based on greatest need for program assistance and sector support, and Senegal as a "performance" country with a quality system in need of support. The previously separate Sahel project for participant training was integrated into the Africa Region's Human Resources Development Assistance project in FY 1988.

Private Sector Development

An Africa Private Sector Development Policy and Strategy released in May 1988, placed Senegal, Mali and Niger in priority categories for development of private sector profiles targeting opportunities and constraints. These will serve as a basis for developing strategies and action plans for policy reform, financial market development and other private sector promotion interventions.

4. Country Programs, FY 1986-FY 1988

Individual countries have used SDP and DFA resources in bilateral programs to further general Sahel development goals, as well as country-specific strategy objectives. The past several years have seen a reduction and consolidation of project portfolios, especially in the larger programs (Senegal, Niger, Mali), based on selected priority areas. The following country profiles reflect these changes, highlighting selected milestones and accomplishments in the FY 1986-88 period.

Burkina Faso

Landlocked, with minimal infrastructure and a meager natural resource base, Burkina Faso is one of the world's poorest countries. It was especially vulnerable to the effects of the most recent drought. Per capita GNP fell steadily in the 1983-86 period, from \$180 to \$150, and is slow to recover. Despite the grim economic situation, continued development investments are contributing to gradual improvements. The A.I.D.-assisted national immunization campaign against childhood diseases (1985), for example, contributed to reducing infant deaths/1,000 from 176 in 1985 to 152 in 1987.

The A.I.D. Mission has consolidated its portfolio over the past three years, reducing from 11 to 5 bilateral projects, concentrating on 2 vital sectors, agricultural research/education and health/population. Projects completed in this period helped build the current development foundation, including:

- o Rural Water Development (686-0271), by its end in 1987 expanded safe water supply with 666 wells, and funded health manuals and training of village workers (see box);
- o Foundation Seed Production (686-0245), led to creation of the Burkina Faso National Seed Service, developed weed-resistant sorghum and other quality-controlled and certified foundation seed; and
- o Training Women in the Sahel (686-0226), introduced labor-saving technologies (e.g., grain mills) for village women and provided Burkina Faso's first rural training center for women, inaugurated in April 1988.

Current efforts are designed to effect complementary impact at the policy and project levels, as illustrated by recent achievements:

Population. The Family Planning Support project (686-0260) which began in FY 1986, grew out of earlier centrally-funded activities, and has fostered fruitful policy dialogue. The Government of Burkina Faso (GOBF) has rescinded laboratory test requirements for first-time contraceptive users and adopted legislation supporting child spacing. Project-level training and the provision of contraceptives have contributed to raising couple-years of protection by 35% over the 1986 baseline. INTRAH's annual technical advisory committee meeting for Francophone family planning directors was held in Ouagadougou in September 1988, the site was chose to highlight the progress of the Burkina program.

Health. According to a 1987 evaluation, the Strengthening Health Planning Capacity project (686-0251) has been "extraordinarily successful" in enabling the Health Ministry's Planning and Studies Department to revive a "nearly defunct health data collection system." Since 1985, computerized budget and monitoring systems have been put in place. These have enabled the Department to generate a first annual health plan, revive annual statistical reports (for the first time since 1979), and begin a cost-recovery study. Data generated by the Department provide a base for planning and monitoring health initiatives, such as the P.L. 480 Title II-supported CRS maternal and child health activities. A.I.D. central funding has helped launch an anti-AIDS campaign, with support for community-based condom distribution, blood screening, a CDC sero-prevalence study and a radio information campaign.

Agriculture. The Agricultural Human Resources Development project (686-0221) was recently extended to 1992. The extension will continue reorientation of the University of Ouagadougou's training and research program, from a theoretical to practical curriculum based on the model of a U.S. land-grant university. Current activities include long-term, U.S. training of faculty at the Master and Ph.D. levels. Extensive FY 1988 effort has gone toward design of a complementary Agricultural Research and Training Support project that will help the GOBF implement a more cohesive agricultural research program and reform sectoral policies. The Southwest Regional Reforestation project (686-0934) has resulted in planting of over 380,000 trees to date. The project builds on earlier forestry efforts that led to legislation banning tree cutting around urban areas.

Private sector. An A.I.D.-supported sector assessment led to sponsorship of a seminar hosted by the Chamber of Commerce, on strategies to benefit the private sector during the 1986-91 five-year plan period. These efforts complemented nearly a decade of PVO-implemented village projects providing technical assistance and credit to small entrepreneurs. The A.I.D. Mission began an economic growth assessment in 1988, to identify policy and technological constraints to growth and opportunities for A.I.D. intervention through continued policy dialogue.

Rural Water Supply: the Link between Good Health and Clean Water

"The field agent comes to the rural world with a clear mission to discourage bad practices and encourage adoption of new behaviour that is indispensable for maintaining personal and community health." This is one of the first messages to Burkinabe health workers from a valuable field companion, the Practical Guide to Rural Health. The manual was developed through the Rural Water Supply project, an attempt to link wells and well-being in a project that brought over 600 wells to south-western Burkina before it ended in FY 1986. The project began in 1979, on the premise that teaching the value of clean water was as important as providing the water itself. As the drilling and digging began, a first group of village health workers (VHWs) was trained to give simple presentations on the role of water in disease transmission and control. Itinerant health workers (IHWs) supervising them were taught to start community health projects such as latrine demonstrations, and to organize village committees for health promotion and well maintenance. Experience and evaluation helped improve operations as the project progressed. After two expensive models were not adopted, a latrine using local materials was developed; approximately 600 private latrines have been built in 550 villages, in addition to over 300 demonstrations. The success ratio of achieving productive wells increased to over 90%. A pilot zone was created where health training began before digging or drilling, following an evaluation that showed a weak connection between health and water activities. Good results--more active village committees and villagers more aware of the link between water and sanitation--provide a model for the future. Targets for wells were exceeded by the PACD, with 300 dug and 366 drilled. Over 600 health workers--VHWs, IHWs and traditional birth attendants--had been trained and left with a field companion, the "Practical Guide" to good health and clean water.

Cape Verde

Cape Verde literally and figuratively occupies a unique position in the Sahel. The nine inhabited islands, 450 km west of Senegal, face the same geo-climatic problems as the rest of the sub-region. But these are exacerbated by the isolation, transport difficulties, high population density and finite land base that plague poor island nations. Soil and water progressively are being lost through run-off, putting increasing pressure on the limited amount of arable land (an estimated 15% of 4,033 sq km). In 1979 approximately 70% of the population engaged in farming, but by 1988 the estimate has dropped by about 20%. Unemployment has reached as high as 50% on some islands, driving large numbers of rural unemployed to urban areas or abroad to seek work.

A new National Development Plan (NDP) for 1986-1990 continues to accord rural development--especially soil and water conservation measures--top priority, but has added new emphases:

- o family planning, to address the long-term problem of population pressure; and
- o private sector development, especially of activities oriented toward the world market (fisheries, tourism, services and industry), to reduce economic dependence on agriculture and external sources (donor contributions and foreign remittances are the mainstay of the economy).

A.I.D.'s portfolio is focused on the agriculture sector, with projects to maximize productivity and renew the natural resource base. With the end of the 10-year Sal Desalination and Power project (655-0005) in March 1988, the current country program has been narrowed to complementary technical assistance, training and research projects, using a combination of project and non-project assistance, central, regional and bilateral funds.

Agriculture and Natural Resource Management. Over 4,000 people are employed year-round in combatting erosion and flooding, organized through the Watershed Development project (685-0013) and paid with local currency generated through P.L. 480 Title II (see box). Following a very positive mid-term evaluation in FY 1988, the project was extended through 1990. Improved varieties of millet and appropriate land and water management practices were introduced to farmers through on-site trials under the Food Crops Research project (655-0011); successful extension efforts led to an additional commitment of \$1 million to continue technical assistance and research through 1990. In 1987, all Integrated Pest Management activities were incorporated into the project. The project team has provided training, introduced new varieties of sweet potatoes in recent years--which have become a rural staple--and is conducting research on high-value horticultural crops for possible export.

Human Resources Development. Training is an integral part of all projects. A combination of regional Sahel Human Resources Development (SHRD) III and AFRAD programs have been used to fund a current total of 56 graduate and undergraduate candidates in management and agriculture degree programs. In addition, the programs have supported in-country management and family planning seminars. An agreement recently was signed to fund an additional six candidates under Human Resources Development Assistance (HRDA). About 50% of participants in A.I.D. training activities have been women.

Health/Population. As recognized by the Government of Cape Verde (GOCV) in its new National Development Plan (NDP), environmental restoration depends on greater equilibrium between resource availability and population density. In support of the new emphasis on family planning, A.I.D. began its Sahel Population Initiatives (SPI) project (625-0969) in FY 1987. Needs assessment and training activities under way will help strengthen the ILO/UNFPA-sponsored Population and Human Resources Planning Unit initiated in 1985.

Private Sector. In support of the economic thrust of the NDP, A.I.D. conducted a private sector assessment earlier this year. It will provide the basis for designing an Export Development Services Project to foster private sector development of export products and services with potential to increase foreign exchange earnings.

Cape Verde Watersheds: Community Action on Conservation

Cape Verde is no stranger to soil and water conservation projects--Watershed Development took up in 1986 where the six-year Watershed Management Project left off the year before. But years of experience have led to a new formula for community action that combines traditions of mutual assistance with existing workforce methods, to create paid work collectives that contour, dam, terrace and plant on their own lands. In each of the 15 participating watershed areas, land-owning households have been formed into Community-Based Work Fronts. First, a pair of extension agents is recruited from the area and trained by project staff in conservation and supervision. Next, they help organize the work front, which elects a three-person governing committee who serve as crew chiefs. Only one member of a household (male or female) can work at a time; if nobody is available, the shift can be postponed or labor can be hired to work on others' lands. Salaries are paid to working crew members from funds generated by the P.L. 480 program, and one day's wages per week are set aside in a savings plan. Villagers say the work fronts present an opportunity to earn money while protecting their lands from erosion and runoff. Also, they are more effective than traditional work fronts that use hired labor. All together, the project employs over 4,000 people year-round. As of spring 1988, over 2,000 check dams, 6,000 meters of irrigation canals, 11 catchment dams and water reservoirs have been constructed, over 240 km of roads have been repaired, and about 600,000 trees per year--over 2.4 million to date--have been planted on two islands. The mid-term evaluation found the project "well on its way to meeting or exceeding" the goal of saving precious soils.

Chad

Crippled by civil war as well as drought, Chad has encountered yet another obstacle to recovery in the past three years: budget crisis. The latest setback was brought on by the 1985 collapse of the international price of cotton (the country's primary foreign exchange earner), locust infestations, and the continued high cost of controlling Libyan military aggression. But low population density, considerable arable land in the south, two perennial rivers and a resilient population hold potential for increasing agricultural production. Pragmatic leadership has enacted liberal pricing and marketing policies that also give the country promise for economic revival.

At the same time, donor and Government of Chad (GOC) collaboration has facilitated planning and action. A three-year plan for 1986-88, agreed upon at the World Bank Geneva Round Table, targeted small- and medium-scale irrigation systems manageable by the private sector as the agricultural priority. Donor coordinating committees also were created for agriculture, cotton and transport. With the guidance of A.I.D., IMF and other donors, ESF budget support, and a three-year, \$25.2 million IMF Structural Adjustment Facility Program that began in 1987, the country has embarked on stabilization measures that include:

- o customs and tax revisions;
- o a freeze on domestic credit; and
- o a reduction of subsidy supports.

In addition, A.I.D. has provided funding for a 1987 civil service census and financial management training for GOC staff through SRPMP. New economic data indicate encouraging signs of revival:

- o GNP increased by 3% per year in real terms from 1983 to 1987; and
- o per capita income rose in the same period, to \$129 in 1987.

The A.I.D. program is shifting its emphasis from relief to long-term development. The Relief and Rehabilitation project (677-0041) has been replaced by a portfolio that focuses on water supply and transport as two key aspects of agricultural revitalization; health and population policy; and support of economic reform. A.I.D. is relying exclusively on PVOs to implement agriculture projects, under a four-year, \$12.725 million PVO Development Initiatives project (677-0051) which began in FY 1987 (see box).

During the war years, Chad's network of dirt roads--the lifeline for marketing produce--deteriorated and equipment was lost or broken. A project for Strengthening Road Maintenance (677-0050) began in FY 1987 as an outgrowth of earlier relief efforts. Recaptured equipment has been repaired and used by the National Roads Office Training Brigade to simultaneously do on-the-job training and road repair, and the first crews were graduated in September, 1988. At the same time, the project is helping develop systematic, cost-effective annual maintenance programs. In 1988, A.I.D. and the World Bank agreed to coordinate financing of road construction activities, to reduce overall costs.

PVOs in Chad: Particularly Valuable Organizations

Private voluntary organizations always have played a vital role in A.I.D. assistance to Chad. A decade ago, ORT was training public works crews in road maintenance, Africare was drilling wells, and CARE was involved in activities that included school construction, food delivery and planting of over 350,000 acacia albida trees. They were among the first groups back in Chad in the early 1980s to begin disaster relief activities. In 1985, A.I.D. launched a PVO Development Initiatives project to help re-direct their efforts toward long-term recovery. Working on agriculture, conservation and credit, as of October 1988:

CARE introduced new dryland farming methods in drained river beds, as well as irrigation schemes. Acceptance of new technologies is good, and harvests of wheat and vegetables have exceeded output targets in two areas. By September 1988, 47 nurseries had been established, producing over 500,000 seedlings.

Africare built four water catchment structures with Food-for Work: remuneration for manual labor. One retained enough water to permit cropping, indicating potential for good net benefits. Hand-powered "dalou" pumps from Niger are being tested for use in Chad.

ORT introduced furrow planting on demonstration plots, which farmers are adapting after seeing higher yields. Pump technology is being developed and nurseries have been established, both with the help of Peace Corps Volunteers.

VITA made 53 loans to rural producers in a new loan project. French wholesalers were identified and a trial produce shipment was made in an effort to develop export markets. This follows a project that set up a credit organization and made 95 loans with a 75% repayment rate.

These experiences are providing particularly valuable benefits to rural populations, and planning information to A.I.D. and the Chadian Government.

A.I.D.'s health portfolio supports actions at both the policy and project level:

- o The **Health Planning Restoration** project (677-0041) was extended for another year with UN co-financing, to institutionalize the health information system (monthly reports, computer analysis) that has been put in place by a Harvard University team.
- o The **Oral Rehydration Therapy Grant** (677-0934) has enabled distribution of packets and preparation of posters, brochures and buttons for an information campaign to begin next year. One hundred Chadians are being trained to administer rehydration fluids.

- o Through central funding and the Sahel Population Initiatives project (625-0969), A.I.D. was able to respond to a Ministry of Health request for assistance in reviewing the 1965 anti-contraceptive law. Consultants helped draft new legislation, design a comprehensive family planning project, and help prepare for Chad's first family planning conference, held in October 1988.
- o The FEWS project (698-0466) has resulted in establishing a format that standardizes maternity data, training of nutrition and food technology specialists, and conducting a survey of food consumption.

The Gambia

A decade of poor producer support policies and increasing financial deterioration culminated in a 42% inflation rate and a decline of about 16% in real income in 1985-86. External debt rose to 180% of GDP. In mid-1985, the Government of the Gambia (GOTG) adopted a comprehensive Economic Recovery Program (ERP) to restore financial balance in the short-term and increase rural incomes in the long-term. With donor assistance, private sector incentives and an environment for exploiting them have been created, and--along with the return of rain--these measures have put the Gambia on the road to economic recovery:

- o farmers increased production of groundnuts, which account for 80%-90% of exports, by 45% during the 1986-87 season;
- o agricultural incomes increased by 5% in 1986 and 8.9% in 1987; and
- o GDP grew by 6% in real terms and per capita incomes rose by 2.5%, reversing the downward trend of the preceding seven years.

Arresting decline of the Gambia's threatened agricultural base has been a cornerstone of A.I.D.'s program for over 10 years, with the Soil and Water Resources Management project. Two projects to diversify production options were added in 1985, to reduce dependence on the peanut crop. A number of activities were added in the FY 1986-88 period to create a portfolio that encourages development of the macro-economic environment for agricultural growth through policy reform, training, research and private sector initiatives. Efforts to support economic policy reform have produced encouraging results for the Gambia, and a model for A.I.D. in integrating project and non-project resources to further development goals. To date:

- o The Economic and Financial Policy Analyses project (625-0225) has supported development of the Gambia's ERP and implementation of the IBRD/IMF structural adjustment program. Project-assisted reforms include a floating exchange rate, market determined interest rates and prices, a simplified tax code approved by the legislature in February 1988, and sales tax legislation passed in June 1988, increasing the range of taxable items but lowering rates.
- o The Sahel Policy Analysis project (625-0970.35) helped fund development of the FY 1987 AEPRP and studies for policy reform recommendations to the GOTG, especially in agricultural input marketing. A system to monitor performance of parastatals is being developed to reduce government intervention in marketing.

- o The African Economic Policy Reform Program (635-0228) enabled the GOTG to meet an IMF program target and discharge \$2 million in external debt. The first tranche of the \$6 million ESF grant was released in March 1988, in response to reforms including abolition of preferential interest rates to parastatal marketing cooperatives and preferential prices for public groundnut buyers.
- o A P.L. 480 Title II Section 206 program has been used since FY 1986 to promote agricultural marketing reforms. The GOTG ended retail price controls on rice, fertilizer subsidies and parastatal control of the rice and fertilizer trade. In response, private bids for rice rose sharply this year. Funds generated from rice sales have helped the GOTG sustain incentive producer price for groundnuts. The national Marketing Board has begun divesting peripheral operations and discharging its debts.

Oilseeds: Working with PVOs to Sow Seeds of Success in the Gambia

The right crop literally at the right time describes the introduction of sesame in the past few years. Gambia once produced a wide range of grains and vegetables, but 25 years of steadily-decreasing rainfall have squeezed out most crop options. Consequently, recent research efforts have been devoted to expanding the country's agricultural base beyond peanuts, the principal cash crop. In the mid-1980s, a Catholic Relief Services specialist began working with Gambian agricultural researchers on alternative income-generating crops, testing drought-resistant varieties of sunflower and sesame. Results for sesame seemed promising, and CRS applied to A.I.D. for an Operational Program Grant under the Oilseeds Promotion Project, financed through local currency generated by the P.L. 480 Title II Section 206 Program. The OPG was requested to support a seed distribution and promotion campaign in 1986. CRS expected about 9,000 women to plant, but results exceeded all expectations: over 20,000 women planted on 5,000 hectares the first year and about 12,000 hectares the next. Timing is one reason for such success, sesame fits perfectly into the existing cropping system planted after peak labor requirements for groundnuts. About 1,500 tons were harvested in 1986 and twice as much the next year, overwhelming the country's existing marketing and processing capability. Project-funded oil-pressing facilities in seven villages could only handle a fraction of the crop, so nine more were constructed. New processing, marketing and export possibilities are being explored to meet the potential for increased production.

Agriculture projects are providing the institutional and technological capabilities to capitalize on changes in the economic and policy environment, and to help farmers cope with the changing natural environment. The Soil and Water Resources Management project (635-0202) was extended for three years past its FY 1988 PACD (see box, Chapter III). The Gambia Agricultural Research and Diversification project (635-0219) began in FY 1986 as a seven-year first phase in a long-term effort to create local farming-systems research capacity. Since it started, the GOTG has created a Department of Agricultural Research Services, and research has

begun on development of drought-resistant varieties of crops once grown in the country. In another diversification effort, the Oilseeds Promotion project introduced drought-tolerant sesame seeds to women farmers (see box, preceding page).

The Gambia has been designated a priority country for the Africa Bureau's Natural Resource Management Support, and was one of the four countries where a NRM assessment was carried out in 1987/88. The SWMU was highlighted as a case study in mobilizing villagers in conservation management. Introduction of a short-cycle rice variety with seed provided by the GARD project and PVO extension services also was featured in the report.

Mali

Although the country has enjoyed two decades of political stability, Mali has spent the 1980s' struggling back from the brink of financial crisis created by an over-controlled economy and repeated drought. Three successive IMF programs (1982-86) and multidonor project efforts have contributed to:

- o ending state control of grain markets;
- o reducing payrolls in overstuffed state agencies; and
- o dissolving non-viable parastatal agencies.

All of these have helped reduce the budget deficit from 3% in 1983 to 1.2% in 1986. But the road has been rocky: Mali failed to stay under credit ceilings in the last IMF agreement, and in 1987 the BCEAO tightened the country's credit ceiling and conditions. Despite environmental and economic obstacles, the country's commitment to change has forged a strong development partnership between the Government of the Republic of Mali (GRM) and donors.

A.I.D.'s strategy focuses on promoting economic growth and food security through policy reform, institution-building, technology development and transfer. At the same time, support to the health sector remains a key concern. The cornerstone of A.I.D.'s economic reform program is Mali's AEPRP (688-0240). It started with an \$18 million grant authorized in FY 1985, and was increased by \$6.5 million in FY 1988 (see box). Since 1984, A.I.D. has contributed to a cereals restructuring program recognized as a remarkable multidonor effort (the PRMC), through the Mali Cereals Restructuring Program (688-0241). The program is aimed at policy and parastatal reform in return for food aid from the P.L. 480 Title II Section 206 Mali Cereals Restructuring project (688-0230). Overall, the PRMC has led to abolition of:

- o official rice prices and subsidies in 1986;
- o the official coarse grain consumer price structure in 1987;
- o monopoly power of the GRM production/marketing agency in 1987; and
- o the rice import ban in 1988.

Counterpart funds from the sale of donated cereals have enabled the GRM to raise consumer prices gradually, shifting subsidies from consumer to producer. With reflows of PRMC funds, credit programs for private traders and village cooperatives were started.

The PRMC has shown policy reform to be incomplete without removing farmers' constraints to exploiting improved conditions. Agricultural research and development, a constant in A.I.D./Mali's program, recently has included:

- o Transition from the \$20 million, decade-old integrated rural development project, Operation Haute Vallee (688-0210), to the follow-on Development of the Haute Vallee (688-0233) was made in FY 1988. The new project focuses on strengthening private producer groups through management training and credit. As of 1986/87, OHV research had achieved annual per hectare production increases of 4.2% for millet and 11.6% for maize. The project provided \$1.7 million in credit to farm families and groups with a 96% repayment rate, and funded 378 km of road construction to improve marketing and input distribution.
- o Mali Livestock Sector II (688-0218) was extended until 1991. In the past two years, a new facility for the Central Veterinary Laboratory and a decontamination unit were constructed, and vaccination production continued. In the recent rinderpest inoculation campaign, 62% herd coverage was attained.
- o Semi-Arid Crops Research II (688-0226) added \$1 million in 1987 to fund construction of a Regional Sorghum Center for ICRISAT. Under a maize-millet intercropping system introduced by extension agents in 1985 in the southern regions, 19,400 hectares are under cultivation. Per-hectare yields have been recorded at 1,800-2,200 kg/hectares compared to 1,200-1,400 kg/hectares using traditional systems.
- o Farming Systems Research and Extension (688-0232) began providing the Institute of Rural Economy with U.S. university programs for staff members and in-country training for extension agents. Dire Agronomic Research (625-0929D) was extended until 1989 to continue on-farm testing. Trials of soft and hard wheat varieties using different methods of land preparation are in their fourth year.

Natural Resources and Conservation. As Mali is a priority natural resource management (NRM) country, a NRM assessment was done in early 1988, complemented by a follow-up biological diversity study. At the project level, the Fifth Region Village Reforestation project (688-0929D) was extended with an OPG to CARE. Aspects of the project--which includes communal woodlots, live fences, contour diking, in-field plantations and improved stoves--were featured in the NRM assessment. Before the VITA Woodstoves Project (688-0237) ended in 1988, over 12,000 portable metal cookstoves had been constructed (see box, Chapter III).

Health and Population. Mali's infant mortality rate in first year of life is 153/1,000, one of the highest in the world. Yet population is increasing at an annual rate of 2.7%, well in excess of the GDP. Given these factors, A.I.D. is focusing its long-standing commitment to the sector on maternal and child health, population and family planning. The Integrated Family Health Services project (686-0227) began in FY 1986. The five-year project focuses on child survival

(nutrition, vaccination, oral rehydration) and family planning, and has begun with a baseline study for upgrading service delivery. The SDP Demographic Data Collection and Analysis project (625-0927) discussed in Section B.2. has supported Bamako-based CERPOD in establishing the largest data bank on infant and child mortality.

Mali's EPRP: The Ambulance on the Road to Recovery

"The World Bank diagnoses you as sick and offers to treat you once you're in the hospital. U.S. assistance provides the ambulance to get you there." Thus one Malian official described A.I.D.'s Economic Policy Reform Program, which since FY 1985 has provided over \$24 million to support difficult reforms to reverse economic decline. Overhaul of the civil service is a sensitive matter. A.I.D. encouraged the government to trim the public payroll by conditioning cash transfers on setting hiring ceilings; they have been scaled back from 2,000 in 1985 to 500 in 1988. To trim existing rolls, the AEPRP supported an innovative Voluntary Early Departure Program that provides bonuses, loan guarantees and business start-up assistance for civil servants choosing early retirement. In the first year, over 200 people took advantage of the program, which may provide other African countries with a model for streamlining their bureaucracies. And, to help the Malian government keep track of those still in the civil service, A.I.D. financed a computerized payroll system. On the fiscal side, the "ambulance" has driven the Malian economy toward liberalization, with a new commercial code to facilitate private sector activities. In a country known for rigidly-fixed markets in the 1970s, 80% of prices are now set by supply and demand. Taxes have been reduced (30% for individuals, 5% for businesses and 50% on payrolls) lowering the cost of products and encouraging increased sales. Despite signs of improvement--the Government deficit fell by more than half from 1983 to 1986, inflation slowed steadily from 1984 to 1987, and real GDP grew an estimated 3.6% in 1987 from less than 1% annually in the previous five years--a long, rocky road to recovery lies ahead.

Mauritania

In 1984, external public debt represented 171% of Mauritania's GNP; a year later it rose to 210%. The country took action to fulfill the requirements of an IMF stand-by arrangement, devaluing its currency, increasing producer and consumer grain prices, and instituting a parastatal reform program to qualify for debt rescheduling. At the same time, the Government of the Islamic Republic of Mauritania (GIRM) developed a 1985-88 economic and financial recovery plan in consultation with the World Bank. The first Mauritania Consultative Group meeting was held at the end of 1985 to coordinate donor support for the plan. A.I.D.'s support focuses on food security (emergency and long-term), human resources development, and rural health.

Policy Reform. P.L. 480 Title II (\$4.3 million in FY 1986-88) plays a key role in policy reform and project activity. In June 1988, the GIRM issued a three-year food policy that will increase prices of imported cereals and rice, reduce the

role of the GIRM Food Security Commission (CSA) in sales and promote private sector activities. The Section 206 program has fostered these actions, promoting:

- o Self-Reliance. The Section 206 self-help measure has encouraged the GIRM to reduce free food distribution from 65,000 MT in 1986 to 20,000 MT in 1988. Concomitantly, A.I.D. has supported GIRM increases in food-for-work (FFW) programming (from 6,500 MT in 1987 to 20,000 MT in 1988). A multidonor national FFW program began in July, 1988, based on a national FFW strategy.
- o Private Sector Involvement. As required by Section 206, the CSA withdrew from the local grain market in producing areas during the harvest season. It re-entered only when depletion of local produce drove prices beyond fixed threshold levels. Three CSA centers were closed during the 1987/88 harvest, and more closings are planned for the 1988/89 season.

Agriculture and Rural Development. A number of project activities concentrate on development potential related to the Senegal River dams:

- o Agricultural Research II (682-0957) is helping the GIRM train researchers and design a long-term research plan for agricultural development as the dams become operational. To date, 13 studies based on farm trials have been published. Two studies were completed in 1988 under the OMVS Groundwater project (625-0958), examining the implications of the dams for Mauritania.
- o The Dirol Plain Operations Research project (682-0934), which ended in 1987, developed small irrigation systems with Peace Corps assistance. The activity has provided an experience base for current design of a Mauritania River Valley Development project.
- o In a related Dirol Plain activity, the Kaedi-Selibaby road was completed in December 1986, under the Rural Roads project (682-0214), see box).

Emergency agriculture measures have helped Mauritania minimize production losses. In 1986, early rains triggered an infestation of grasshoppers that led to declaration of a state of disaster. With data from the Sahel Water Management II project (625-0940) and technical assistance from the Regional locust/grasshopper program, about 180,000 hectares were sprayed. Quick response limited damage to an estimated 10% of the crop. Similar operations were mounted in 1987 and 1988, but locust and grasshopper infestations through the end of FY 1988 were reported by the FAO as the worst in the Sahel. Despite combined donor efforts--including a \$1.5-million U.S. contribution--the swarms reduced production increases resulting from good rains.

Training has become a major component of the A.I.D. portfolio. The \$6.5 million Human Resources Development (HRD) project (682-0233) has sponsored in-country activities that include three major seminars since 1986. Two focused on the role of the private sector; the other, a human resources planning conference, was the first of its kind in Mauritania. The HRD Project also provides timely support to IBRD-led reform of the fisheries and banking sectors, with third-country training that sent fishing officers to Tunisia. Under the SERD III project (625-0977) five women were sent to the United States on a 1988 business/banking study tour (part of an effort to expand women's access to training). HRDA and AFGRAD buy-ins, amounting to \$1.6 million for FY 1988, will continue activities that are providing long-term U.S. training to over 50 critically-needed managers and

technicians. In addition, the first commercial English program in Mauritania is being provided through a 1987 Private Sector Initiatives Grant (625-0970.82) to the Mauritanian Employers' Union.

Health and Population. The six-year, \$5 million Rural Health Services project (682-0230), was extended until FY 1989. The project has established primary health care services in two regions and has begun in a third. It funded an immunization campaign in 1986 that covered 55% of the country. Based on a 1986 evaluation, the project's focus has shifted from field operations to policy, and the Chief of Party is serving as the senior management advisor to the Minister of Health. Buy-ins to the Africa Child Survival project (698-0421) are supplementing project activities, helping support an international workshop on diarrheal diseases in February 1988 that brought together representatives of six Sahelian countries. Mauritania's Sahel Population Initiatives project (625-0969) began in 1986. A national seminar on population and development was held in November 1987, followed by an observation tour for political and religious leaders to Tunisia and Morocco. Demographic analysts have been trained and helped prepare a "RAPID" model, that was presented at a seminar for national policy-makers in December 1988.

In Mauritania, the Road to Success Ends at Selibaby

Selibaby is not an island; it is a village nestled in a corner of southwestern Mauritania near the borders of Senegal and Mali. But when rains flooded the riverbeds, washed out the dirt tracks and turned the surrounding land to a sea of mud, Selibaby and nearby villages were marooned. When the rains receded, roads remained impassable and the people of the region were cut off from food and supplies. But in December of 1986, a lifeline was opened, a 233 km all-weather road to the town of Kaedi built under A.I.D.'s Rural Roads Project. The bridge over the riverbed at Selibaby marked the end of a long, and ultimately successful road in more ways than distance. In 1982, UNSO began construction of a road from Kaedi, the agricultural capital of the Gorgol Region, to Gouraye, 279 km to the south in a potentially fertile but inaccessible agricultural region. After 14 months of difficulties, A.I.D. took over the project, committing \$6 million of grant and P.L. 480 funds. Only 120 km had been finished eighteen months later, and the project was plagued by management and personnel problems. By March of 1985, the A.I.D. Inspector General's office recommended that the project be dropped, based on a projected completion cost of \$63,700/km which was more than double the original estimate. Instead, drainage structures were redesigned using local materials to cut costs, the road was scaled back 45 km to Selibaby, management was improved and \$6.4 million was added. Exactly a year later, an impervious clay roadbase topped with gravel was completed, ahead of schedule and at a cost of \$22,500/km—\$8 million less than the contractor's original estimate. Rehabilitation of 100 km between Kaedi and Boghe was added with the money saved. Defense Department Civic Action funds paid for a Bailey-type bridge, erected by A.I.D., Seabees, and the GIRM military that now links Selibaby to the hospital on the other bank. The route, now kept in shape by an A.I.D.-funded Mauritanian brigade, permits 13 MT trucks to travel at speeds up to 80 km/hr, linking Selibaby and Kaedi on a successful road to appropriate, low-cost construction for Africa.

Niger

The transition was smooth following the death of President Seyni Kountche in November 1987, allowing Niger to continue recovery from droughts and falling prices of uranium, the country's principal high-value export. During 1987-88, the Government of Niger (GON) took part in a series of round tables with its donors to present a new Five Year Development Plan for 1987-91. The plan stresses needs of rural populations, and in March 1988, a special round table on rural development was held to discuss marketing policy, famine early warning, credit, cooperatives, rural training and agronomic research.

The current A.I.D. program supports all of these areas, focusing on comprehensive improvement of rural life through expanded food production, natural resource management and health improvement. The keystone of the program is the \$39 million Agriculture Sector Development Grant (ASDG, 683-0246), which ends during FY 1989 and will be followed by a second grant. The ASDG, conditioned on subsidy reduction and market liberalization, has helped effect:

- o elimination of government subsidies on farm equipment, reduction of fertilizer subsidies and overall subsidy reductions of over 30%;
- o abolition of uniform national prices and sales restrictions for cowpeas and cereals; and
- o opening of cross-border trade with Nigeria.

In addition, a national seed production/distribution policy has been developed. A \$16.5 million counterpart fund has been created and is being used to support development projects including forestry activities, irrigation and rural artisan training.

A.I.D.'s reform efforts are complemented by projects that strengthen institutions and groups involved in agricultural development, through a combination of management assistance, training, research, extension and credit:

The National Agronomic Research Institute (INRAN). Niger Cereals Research project (683-0225) is ending in FY 1989, but project-trained INRAN staff are continuing work on farming systems and crop improvement. A project-funded documentation center/computer laboratory was completed in 1988. Activities to be continued under the new Niger Applied Agricultural Research project (683-0256) will concentrate on managerial capacity-building and irrigated research programs.

Ministry of Animal and Water Resources (MAWR). The Integrated Livestock Production project (683-0242) was refocused in 1986 on policy, data analysis and animal health. A policy committee now advises the MAWR on issues including credit and cross-border trade. Computers and staff training enabled epidemiology studies that resulted in quick response to a 1988 small ruminant plague outbreak, and surveys in 1986-87 to develop a pastoral early warning system. Rinderpest vaccine field-testing is under way, and the vaccine is now being produced locally.

Rural Research and Extension Agencies. Rural Sector Human Resources Development (683-0226) provided extension training support to the Institute for Practical Rural Development, until it ended in 1986. Niamey Department Development II (625-0240) ended in December 1988; it was redesigned in 1986 to focus on development of

farming packages--fertilizer, pesticides, animal traction units--and extension. Over 1,300 farm couples have been trained to use the packages to date.

Directorate of the Environment. The Forestry Land Use and Planning (FLUP) project (683-0230) helped create a Strategic Planning Unit before it ended in FY 1988. Project accomplishments include natural resource inventories and three model sites to demonstrate land use practices. FLUP water-harvesting and checkdams, and management of the Guessebodi National Forest (see box) were highlighted in the Natural Resources Management Assessment.

Cooperatives and Credit Unions. According to a 1987 evaluation, the most successful component of the Agricultural Production Support (APS) project (683-0234) is CLUSA's training for agents and members of over 135 cooperatives in literacy, bookkeeping and operations. A loan guarantee fund allocated over 107 million CFA as of September 1988. APS also has supported computerized accounting, budget and inventory systems for the Input Supply Agency, which was transferred to the National Cooperatives Union in 1987. Niamey Department Development II trained about 900 cooperative members including bookkeepers, treasurers, and managers. A Rural Organization Development project will continue and expand cooperative support activities, and credit union development is being encouraged through the ASDG.

Guessebodi: An Experiment in Cooperative Forestry Management

The experimental plots in Guessebodi National Forest have yielded more than data on soil improvement and growth rates of new species. In 1987, the Government of Niger signed an agreement with the Guessebodi Woodcutters' Cooperative, giving the group responsibility for conservation and planned exploitation of the national forest reserve. This joint venture with a private group to manage public lands was a first for the GON, and first proof that popular participation in natural forest management is working. The experiment began in 1981 as part of A.I.D.'s Forestry and Land Use Planning project, which ended in June 1988. It was based on a hypothesis that the 10,000 hectares national forest near the capital could help meet Niamey's fuelwood requirements and village employment needs with a "cost-effective, sustained-yield forest enterprise administered and managed by local users." As vegetation and soils mapping was being done, project advisors visited the villages near Guessebodi to learn about local preferences for using the forest. Based on data and these discussions, a management plan was developed and presented to the villagers. The forest is divided into ten parcels to be reclaimed over the next decade. Paid laborers from the villages build contour walls and micro-catchments, spread mulch and plant about 70,000 trees per year. Forty hectares are divided into agroforestry plots, where farmers plant windbreaks and protect young trees from animals in the first years. In return, they are realizing profits from fuelwood and fodder harvesting. CLUSA helped organize the farmers into a legal cooperative in 1984 and provided training. The cooperative sells firewood-cutting and grazing permits, and participating woodcutters sell their harvest directly to the cooperative. The Forestry Service's share of proceeds goes into a fund to support soil conservation activities. The Guessebodi experiment is a possible model for government private sector partnership in natural resource management.

The Niger Health Sector Support Grant (683-0254) also links policy and projects. The \$15-million grant obligated in FY 1986 is just becoming operational, and focuses on reforms promoting reallocation of financial resources, cost containment and recovery, child survival and family planning programs. It will carry on activities of the Rural Health Improvement project (683-0208) which ended in early FY 1988, having increased the number of village health workers by about 9,000, trained an estimated 85% of all village health workers, and contributed to a FEWS nutritional survey, oral rehydration mass media campaign, and health utilization survey in 1986-87.

Child survival is a priority in the Niger program, being promoted by a strategy drafted in early 1988. Central and regional projects have been used to support the strategy, including PRITECH funding for an oral rehydration study and a new CARE nutrition program. The Sabel Population Initiatives project (625-0969), has helped foster strong political support for family planning, which was non-existent prior to 1984. It has provided:

- o support for a 1986 National Seminar on Population and Development that led to first-time inclusion of a section on demography in the 1987 Five Year Plan;
- o assistance in drafting legislation;
- o training for nurses and midwives; and
- o technical assistance in preparation for the 1988 census.

In December 1987, the new president targeted demographic control as a major development strategy, and named the first female Cabinet member to oversee the newly created family planning directorate. In April of 1988, Niger took the lead in passing family planning legislation. The agreement for a Niger Family Health and Demography project (683-0258) to support government initiatives was signed in FY 1988; it will extend family health services nationwide and continue assistance in census data analysis.

Senegal

The civil disturbances that rocked Senegal in early 1988 were an extraordinary event in the peaceful decades following independence in the model democracy in Africa. But they reflected the political difficulties of instituting badly-needed economic reform measures. In 1983, the government adopted a comprehensive economic reform program aided by World Bank structural adjustment loans, IMF stand-by agreements, and donor support. Not until 1985, however, did an effective program get under way.

Structural and financial reform is a primary element in the current A.I.D./Senegal strategy, which also emphasizes increased agricultural production, environmental stabilization and family health, making extensive use of non-project assistance. A series of six bilateral ESF programs has been used to reform cereals marketing and the peanut industry, and to meet its conditions:

- o internal distribution of rice was opened to private traders in 1986;
- o rice imports were partially privatized in 1987; and
- o government subsidies to peanut-crushing firms were eliminated and peanut seed distribution was put in private hands.

A complementary P.L. 480 Title I program has supported deregulation of cereals marketing (establishment of producer floor prices) and elimination of fertilizer subsidies. In FY 1986, Senegal began a \$15 million AEPRP to support tax and tariff reforms. A new tariff code adopted in 1986 has led to progressive reduction of quota requirements, and the initial revision of the General Tax Code passed by the legislature in 1987 is paving the way for developing a two-tax system. Most local currency generated by the programs has been used to reduce government arrears to the private sector.

A combination of economic policies and good harvests have resulted in grain imports being held below 1983/84 level, and increases in food crop production (millet, sorghum, maize, rice). These developments plus other reform efforts have contributed to the beginnings of economic recovery:

- o growth in GDP has averaged over 4.2% over the past three fiscal years (1985-88);
- o the balance-of-payments deficit fell from 18.7% of GDP in FY 1985 to 9.9% in 1987;
- o the fiscal deficit has been reduced from 8.2% of GDP in FY 1983 to 1.0% in FY 1988; and
- o consumer price inflation has fallen from 12.5% in FY 1985 to 1.1% in 1987, with zero or negative rate estimated for 1988.

USAID/Senegal has consolidated its portfolio--the largest in the Sahel--from a reported 47 projects in 1984 to 12 in 1988. Projects started or completed in this period focus on policy, research and field activities in agriculture and natural resources.

- o **Agriculture Research and Planning (685-0223)** ended in 1987. It was instrumental in establishing a production systems program in three ecological zones, including on-farm testing of cereals, improved rice varieties and sweet potatoes. Research is being continued under **Agriculture Research II (685-0957)**.
- o **Cereals Production II (685-0235)** was redirected to pilot-test agroforestry and soil conservation measures before it ended in FY 1988. Extension agents were trained to help establish windbreaks, woodlots, orchards and live fencing in over 60 villages. Many of these innovations will be replicated in the **Senegal Reforestation project (685-0283)** obligated in FY 1986, under which a nationwide forestry assessment has begun and a revised forestry code drafted.
- o **Agricultural Development Assistance (685-0249)**, completed in FY 1987, bridged gaps in input delivery by parastatals, supported phase-out of fertilizer subsidies, and funded literacy programs for over 3,000 farmers. Privatization of the input supply marketing is being promoted through a \$20 million **Agricultural Production Support project (685-0269)** which began in FY 1987.
- o **ENEA Rural Management (685-0256)**, which ended in FY 1987, funded development of a core curriculum and management information center for the National School of Applied Economics.
- o **Irrigation and Water Management Research I (685-0280)**, begun in FY 1986, continued earlier work on small perimeters in the Bakel area (see box Ch. III). Nearly 250 hectares of new systems were installed and 50 hectares of existing

networks renovated in the first two years. In August 1988, an agreement for a Southern Zone Water Management project (685-0295) to recover lost productive land was signed.

- o Under an innovative Community Development and Enterprise project (685-0260), started in FY 1986, eight PVOs have received grants from one part of the project. Another part has funded 330 loans totalling over \$1,000,000 to small enterprises, achieving a 98% repayment rate in less than two years (see box).

A combination of policy and project actions has been pursued in the health sector as well. The GOS approved a national population policy statement in April 1988 developed with the assistance of A.I.D.-funded consultants. It was an outgrowth of activities sponsored under the Family Health and Population project (685-0248), which began in FY 1985. It has included:

- o construction and equipping of 65 family planning centers;
- o training for midwives;
- o a National Demography and Health Survey in 1986/87; and
- o assistance in preparing for the 1988 national census, completed in June 1988.

In addition to policy reform, the project has helped effect an increase of over 275% in couples using contraception between 1985 and 1987.

Community and Enterprise Development: A Credit Project with Interest

Farmers, herders, mechanics and metal workers who could not qualify for small business bank loans in the Sine Saloum Region used to be in a tight spot: their only recourse was to traditional money-lenders who charged up to 100% interest. But that changed in 1986, when the first loans were made through A.I.D.'s Community and Enterprise Development project, an experiment in providing credit to high-risk micro-enterprises. The fund charged 22%-24% interest, about 8% higher than bank rates. But so far, the "risky" small businesses are proving to be sound borrowers: repayment rates have been averaging about 98%. "We've run the fund like a fairly hard-nosed small business," says John Rigby, President of the New TransCentury Foundation, the U.S. PVO managing the project. "People know this isn't another give-away." Some borrowers have learned the hard way, having been taken to court for defaulting. But most have found out through the assistance of local business agents who help them through the process, from application to signing the loan contract. The project recruited the agents, including former civil servants and small business people, and trained them to interview applicants and give basic business advice. They have an incentive to make sound loans: in addition to salary, they are paid a commission for loans secured and penalties for defaults. So far, about 330 loans have been made to small businesses, and the fund has grown from \$450,000 to \$600,000. In another project component, grants to Senegalese and U.S. PVOs fund loans to village groups for income-generating projects. About a third of the original 104 borrowers report an increase in clients and two thirds reinvest profits back in the business. The fund is on its way to operating at break-even, and is emerging as a model for small business assistance in Africa and even in the Caribbean.

The Rural Health Services II project (685-0242) is extending a network of health huts and trained personnel, while adding a maternal and child health emphasis. As part of a national ORT campaign, 1,200 workers have been trained to distribute rehydration salts. At the same time, project policies on cost recovery and incentives such as a revolving drug fund have encouraged reforms in national health policy. A recent Executive Order requires modest user fees (30 cents per adult) for outpatient services. The money is to be used by a local health committee for supplies, personnel and operating expenses (see box).

Sine Saloum: Cost Recovery Helps a Health Project Recover

In 1988, all health huts in the Sine Saloum Region were providing vaccinations, maternal and child health (MCH) centers were being set up, and workers were being trained to take part in a national ORT campaign. These were signs of continued recovery in a project that had been diagnosed "on the brink of failure" eight years before. The Sine Saloum Health Project began in 1978, with the ambitious goal of setting up 600 village health huts. Two years later, 400 had been established, village health committees had been set up and village health workers were in training. The huts had received an initial gift of drugs that health workers were to sell and turn receipts over to the committee; proceeds were to fund new supplies and pay workers. But according to an A.I.D. evaluation team, a third of the huts had closed in one region and many more were on the verge of bankruptcy, unable to replenish the original stock of medicines. The team found pricing arbitrary: in one place it was \$0.23 for the first visit and about half for subsequent visits for the same complaint; in another it was about \$0.90 per client for unlimited visits. Health workers were paid about 60% of revenues, draining capital rapidly, and the drug resupply system was unreliable. A.I.D. and the GOS acted upon the team's recommendations almost immediately. No more new health huts would be opened until problems were resolved. Fees were reviewed to insure cost recovery: the Ministry of Health required that fees be charged in all health facilities and fixed fees were replaced with actual costs. Yearly contributions for health workers were collected. The drug supply system was decentralized to the regional level. By 1983, most villages were self-reliant, user fees were "the backbone" of the system and the project was "well on its way to success." By 1986, under Phase II, 66% of the 695 huts were operating without problems. Preventive health measures such as immunization and nutrition education had been added, and the recovered project was helping Sine Saloum toward better health.

C. The Club du Sahel and CILSS

The Club du Sahel continued to serve as a catalyst for mobilizing funds and encouraging donor participation in the Sahel development process. At the beginning of FY 1986, Official Development Assistance (ODA) disbursements for the preceding period (1983-85) averaged over \$1.1 billion per year, an increase of nearly 10% over 1980-82 (see Appendix I, ODA flows to the Sahel, 1975-86). This is attributable mostly to the 1983-85 drought--approximately 20% of 1984-85 ODA was in the form of emergency food aid. But in 1986, according to the most recent OECD figures, net disbursements as well as commitments passed the \$2 billion mark (\$2.16 and \$2.396 billion, respectively). Notable trends in 1984-86 included:

- o dramatic increases from non-traditional donors. The Netherlands' commitment more than doubled, from \$61.7 million to \$116 million, and Italy showed nearly a ten-fold rise in contributions to \$388.3 million, second only to France (committing \$415.1 million in 1986);
- o a considerable drop in OPEC multilateral and bilateral support, from a high of \$425.7 million in 1981, to \$64.7 million in 1986; and
- o decreases in North American commitments, substantial for Canada (from \$164.5 million in 1984 to \$39.05 million in 1986), and more gradual but significant for the United States (from \$314.6 million in 1984 to \$179.4 million in 1986).

Decreasing aid has been a cause of concern, given the widening gap between commitments and disbursements. The issue was taken up at the Sixth Club Conference, held in Milan in early FY 1986. A conference paper showed that sectoral distribution of assistance did not reflect the priorities of the Club/CILSS Strategy. Increasingly, donors were funding government operations, balance-of-payments support and food aid, especially with non-project assistance, in countries where persisting structural imbalances have created an external debt service that claims over 25% of export earnings. The conference concluded that non-project assistance should be allocated under structural adjustment programs that promote policy reform.

In one respect, donors have compensated for decreasing financial support by intensifying coordination and management support for Club/CILSS efforts, especially CILSS' implementation of its new "think-tank" mandate. In 1985, Canada proposed creation of a Donors' Advisory Group to ensure coherence of programs, guide the work of CILSS and support the joint work planning begun by the CILSS and Club Secretariats the same year. The first DAG meeting was held in Ottawa in 1986 to review the Club/CILSS work program for the coming year; the second took place in Berne, in December of 1987, to prepare for the January 1988 Heads of State and Club Conferences. Discussions of the 1988/89 work plan focused on ecology and rural development, rural credit and mobilizing local groups. DAG members also are meeting with CILSS staff every six months to continue reorganization and consolidation of programs. The third DAG meeting hosted by the United States in Tucson, Arizona, at the end of 1988, placed considerable emphasis on integration of privatization and decentralization efforts into donor assistance programs.

The Club launched a new generation of debate by sponsoring a "Futures Study," which proposed a likely scenario for the year 2010 extrapolated from trends in the Sahel today. This scenario postulates:

- o the population doubled to 70 million, increasing pressure that already has ruptured the ecological and social balance;
- o a rural world unable to live by subsistence agriculture, increasingly isolated by declining incomes and quality of life;
- o urban areas swelled by young, unemployed, dissatisfied masses;
- o a poorly capitalized informal sector without formal legal protection for its property and operations, controlling the most active urban industries; and
- o economies increasingly dependent on outside aid.

This extension of current trends, potentially volatile and untenable for all involved, is likely if aid is used to mask increasing debt and food deficits. To avoid it, the Sahel--with donor assistance--must take drastic actions to reduce external dependence:

- o the State must step back, giving rural communities more responsibility for their environment and infrastructure;
- o the region must function as an economic unit;
- o policies must support food production (stabilize cereals prices, encourage irrigation);
- o culturally-appropriate education must be developed; and
- o population policies need to be pursued aggressively.

In addition, PVOs are given a role as a major actor in mobilizing rural populations.

The study prompted reflection within individual countries and the Club/CILSS forum, providing the agenda issues for Club VII, held in N'Djamena in January 1988. Its emphasis on empowerment of rural communities focused attention on private involvement in local natural resource management, support to PVOs and the vital role of training in rural self-development. In the continuing spirit of open exchange, differing views on population policies were shared. The fruits of A.I.D. policy dialogue were evidenced in the broad willingness to confront population issues, and the priority accorded by most Sahelian leaders to tackling them (the U.S. delegation gave a model "RAPID" presentation illustrating the consequences of population growth on development). The issue of a protected regional cereals market also was confronted. Agreeing on need for increased production, producer incentives and strengthened trade between Sahelian and coastal West African states, participants differed on the benefits of protectionism versus other measures, such as readjustment of exchange rates. The issue stimulated strong opinions and willingness to further study policies and options; this collaborative spirit has become typical of the frank Club/CILSS dialogue.

The cereals sector has been a focal point of Club efforts since the 1979 Nouakchott symposium launched open dialogue and reform programs. In 1986, the Club sponsored a Cereals Conference in Mindelo, Cape Verde, to review progress. Recommendations called for:

- o producer and private sector trade incentives to increase productivity;
- o regionally protected markets and increased small-scale processing of local cereals to promote food self-sufficiency; and
- o development of local and national early warning systems, promotion of intra-regional transport of surpluses and guaranteed access to international food stocks (for disaster and development aid) to enhance food security.

The call has been answered by sectoral policy reform and programs that have helped liberalize grain trade and reduce involvement of parastatal agencies in Mali, Senegal, Niger and the Gambia.

A new food security offensive was launched in FY 1986 with the creation of the Club-sponsored Network for the Prevention of Food Crises in the Sahel. This group, composed of representatives of CILSS country and donor monitoring agencies, met at the end of 1987 to review the food and nutrition situation based on data from FAO/CILSS crop forecasts. Experts noted that the most important advances in the use of satellite data for crop monitoring have been made by the U.S. Famine Early Warning System project, which draws on resources of government (NOAA, NASA) and private agencies and the Sahelian AGRHYMET center. The CILSS and Club Secretariats were asked by participants to continue efforts in data collection and dissemination, and to study food aid in relation to cereals policy and propose a code for harmonizing food aid policies.

II. A LOOK BACK: CRISIS AND RESPONSE IN THE SAHEL

A. The Setting

On the "shore" of the Sahara Desert, as its Arabic name implies, the semi-arid Sahel stretches from Senegal to Sudan, a 5,000 km belt of brush and rangeland between 11 and 24 degrees latitude north.* As rainfall gradually increases southward, from less than 100 mm per year in vast northern stretches that mingle with desert, supporting little more than camels and the hardiest goats, to about 1200 mm in the Sudanian savannah zone, subsistence farming and grazing for cattle increasingly become possible. The region includes large parts of seven of the world's poorest countries: Chad, Mali, Niger, Gambia, Burkina Faso, Senegal, Mauritania, and climatic conditions extend to the Cape Verde Islands.

Two-thirds of the continental area lies above the northern limit for rainfed agriculture. Rain comes in violent showers during a short, June to August wet season. Rainfall is not only low, but extremely variable; drought has recurred frequently for centuries, lasting up to several years. Rain also controls the flow into the region's five river basins--those of the Senegal, Niger, Gambia and Volta Rivers, and Lake Chad. Groundwater resources, estimated at 3.6 trillion cubic meters, lie 30 to 70 meters below-ground, mostly trapped under hard clay layers.

Soils vary, from barely sustaining drought-resistant varieties of forage in the north, to rich land in the Sudanian zone that can be intensely cultivated. But only about 12% of the continental Sahelian land is cultivatable. Soils throughout are shallow, with too little nitrogen and phosphorous, too much iron and aluminum hydroxide, and poor water retention. The limited arable land is steadily being diminished by overuse, advance of the desert and erosion, as soil-fixing trees and ground cover are stripped.

An estimated 90% of the Sahelian population engages in agriculture. Millet predominates in areas receiving less than 600 mm of rain. In those receiving more, sorghum and peanuts are grown, while cotton and maize grow where there is over 1,000 mm per year. About 70% of arable land is planted with millet and sorghum, 23% is devoted to peanuts and cowpeas, and small amounts are under cotton, maize and rice production. Cotton and peanuts are the region's major export crops. When rain falls below minimum levels, the land is more suitable for pastoral activities which have long been an integral part of the social and economic life of the Sahel. About 150 million hectares of the area is classified as rangeland most suitable for grazing.

* Ecologically, the Sahel is defined as the 200-400 km wide belt within the 200-600 mm average annual rainfall lines (the Sahelo-Saharan, Sahelian and Sahelo-Sudanian zones). See Rainfall Isohyets Map, inside rear cover.

The Sahel has a minimal resource base (uranium in Niger, iron ore in Mauritania, rock phosphate in Senegal and fish in the coastal countries). In the 1960s, however, world market prices for Sahelian commodities were strong, fuelling increasing production as well as government spending. Recession in the early 1970s forced developed countries to cut back on imports, driving prices--and Sahelian terms of trade--steadily downward. Overall growth, sluggish since independence, stagnated: in the 1965-83 period, no Sahelian country had annual average growth in per capita GNP over 1.5%. Beginning in the 1960s, population increased steadily at about 3%, overtaking not only per capita GNP, but increases in crop production averaging approximately 1.75% per year (1960-80).

African empires in the Sahel had flourished in trading, farming and herding. Weakened by war and slavery, they were colonized in the 19th century by the French (except for Portugese Cape Verde and British Gambia). Cash crops became a focal colonial interest; groundnut and cotton production were promoted by appropriating arable land and reducing fallow time, from 15-20 to 1-5 years. Infrastructure and credit were geared toward cash crops, and monetary needs such as taxes forced increasing numbers of farmers into cash cropping. As a result, the acreage devoted to food crops slowly declined and was overworked. Cash crop expansion also reduced the land available to herders, forcing overgrazing of rangelands. Throughout the 1960s, the Sahelian states gained their independence (except for Cape Verde, in 1975). All continued the colonial emphasis on cash crop production. Little investment was made in food crop technology and producer prices were kept low with urban food subsidies.

Although infant mortality rates were (and are) among the highest, and life expectancy among the lowest in the world, the health status improved after independence while women continued to have the same number of children. Between 1930 and 1970, the human population increased by 25%. In 1959, there were 17.5 million Sahelians, with only 1.2 million living in urban areas; fifteen years later, the population had doubled, urban dwellers increasing by 350%. In the same 1930-70 period, the animal population increased by 50%, exceeding optimal carrying capacity by an estimated 9 million animals.

B. The Crisis

In 1967/88, the yearly rains failed, bringing drought to the Sahel. It was hardly the first time. Dry spells were recorded in 1910-14, 1930 and 1940-44, and scientists believe that there has been little climatological change in the past 2,500 years. But this time, factors and policies described in the preceding section combined with climate to destroy the delicate balance between population and resources and provoke unparalleled regional catastrophe.

As the dryness continued, the first noticeable effect was the drop in the water table. The Senegal River was reduced to 65% of normal levels, Burkina's Black Volta went down by 54%, and by 1971 Lake Chad was a third of its normal size.

Grasses, then shallow-rooted leguminous plants died, reducing ground cover and forage for animals. Desertification, which had begun gradually before the drought, accelerated rapidly. Without water or vegetation animals began to die:

- o Mali, Chad and Niger lost about a third of their livestock; and
- o in Mauritania, where losses ranged between 25%-40%, some nomads lost their whole herds.

Agriculture suffered a similar fate, but cereals production suffered most, spurring the steady decline of domestic food supplies caused by years of ignoring subsistence agriculture:

- o production indices for corn, millet and sorghum fell in six countries;
- o Mali's corn production fell by more than one third between 1969 and 1971; and
- o cereals output decreased by 68% in Mauritania and 50% Niger during in the 1969-74 period.

Although peanut production declined or stagnated in most countries, it was 17% higher in Senegal at the peak of the drought, and cotton production nearly quadrupled.

Losing sources of food and income, farmers and herders began to suffer. Malnutrition swept rural areas: a 1973 CDC survey of 3,500 children in Mauritania, Mali, Niger and Burkina Faso found 75% of nomadic groups and up to 25% in sedentary areas afflicted. Consequently, susceptibility to disease increased:

- o reported cases of measles jumped by as much as 66% (in Niger) between 1962-77 and 1968-73; and
- o there were no known cases of cholera in the Sahel in 1965, but by 1971 there were over 26,000 (the number diminished after the drought).

Increases in endemic diseases including meningitis, tuberculosis and hepatitis also were recorded. The mortality rate began to rise, from 2.7% to as high as 7%, and up to 100,000 people may have died from a combination of starvation and disease.

Nomads, especially in isolated areas, were hit hardest. In Niger, the death rate from measles was over twice that in sedentary groups; in Mauritania, it was 69/1,000, as opposed to 25/1,000 in other groups (equal to pre-drought rates). Whole families began migrating toward food sources, joined by rural communities no longer able to farm. Cities, the centers of food distribution and medical care, mushroomed. Nouakchott, the capital of Mauritania, grew from 5,800 people in 1961 to 136,000 in 1977, as up to 80% of the northern population moved south. Dakar, Senegal increased by 42%, as nearly 15% of the rural population migrated. Sanitary conditions quickly deteriorated, as well as cultural norms that had held theft and prostitution to a minimum.

Disaster struck at the macroeconomic level as well. Livestock losses have been estimated at \$400 million, especially damaging in Mali and Burkina Faso, where cattle exports represented over half of the GNP in the 1964-72 period. Loss of exports contrasted with the soaring need for imported food, and trade deficits

increased in all the countries. Between 1968 and 1972 deficits more than doubled for the whole region, from CFA 19 million to CFA 45 million. Weakened economies fostered political instability. Drought played a role in the fall of at least one regime (Niger), and peasant tax revolts and urban unrest broke out in several countries. Politically, economically, socially and environmentally, the Sahel was a disaster area in need of massive assistance.

C. The Response

The drought began in 1968, but relief efforts started five years later. This curious fact resulted from delayed reaction on two sides. On one hand, African governments virtually ignored the drought until it began to affect settled populations. On the other, donors, although documenting the drought, did not have a system for analyzing their information nor a plan for acting on it. By early 1973, disaster could no longer be ignored, and in March, Ministers from Burkina Faso, Chad, Mali, Mauritania, Niger and Senegal met to jointly confront the crisis. They declared the Sahel a disaster area and launched an appeal for international relief. With this signal from the Sahelians, donors put emergency plans into action.

The response was impressive. By mid-1974, over 20 donors had provided more than \$360 million in emergency relief. Between November 1972 and October 1975, more than 1.5 million MT of food donations were sent to the Sahel. The United States was a primary donor, providing over 600,000 MT between 1973 and 1975, and roughly a quarter of the estimated \$1 billion in total relief. But delays persisted once relief began, due to poor inter- and intra-agency coordination among donors, and lack of infrastructure and trained personnel on the African side. Sahelian governments, unused to working with donors, set up needless bureaucratic obstacles. Donors, unfamiliar with the Sahel, erred in choices of commodities. Unique problems called for special solutions.

1. Creation of the CILSS

More than recognition of the need for help, the March meeting reflected the realization by Sahelian leaders that their separate nations faced a multiplicity of common, overwhelming problems:

- o vulnerability to drought and environmental decline;
- o poverty and weak economies;
- o lack of infrastructure and trained manpower; and
- o dependence on outside donors for food security.

At the same time shared resources, colonial legacies and cross-border cultures forged common ground for joint effort. The states formed a committee to coordinate drought relief and propose development of a common emergency plan to fight the drought's effects.

Six months later, the Sahelian Heads of State formally created the Permanent Interstate Committee for Drought Control in the Sahel (known by its French acronym, CILSS), to:

- o coordinate efforts to fight drought;
- o promote regional food security as protection against drought;
- o develop a specific program for attaining food security goals; and
- o mobilize donor efforts and funding to carry out the program.

Membership was open to any predominantly agro-pastoral nation in the Sahelian ecological zone declared an official disaster area (the Gambia, Cape Verde and Guinea Bissau were later admitted).

Headquartered in Ouagadougou, the CILSS was structured as a set of complementary units. The Conference of Heads of State brings the member Presidents together bi-annually to set broad policy. Action programs are defined by a Council of Ministers, and their decisions are implemented by the Executive Secretariat, through programs and projects developed by a staff of technical experts. A number of specialized CILSS institutes support this work:

- o AGHYMET, in Niamey, the hub of a regional agro-meteorological and hydrological data collection network;
- o Bamako-based INSAH, a clearinghouse for applied development research and training; and
- o CERPOD, an outgrowth of INSAH's socio-economic/demographic unit for population and development studies.

The creation of the CILSS was a unique experiment in regional cooperation, the first to focus on food security and rural development rather than trade and industrial development. Its comprehensive multisector rural development program was unusual, as was homogeneous membership of "poorest of the poor" countries.

At the first official CILSS meeting, members agreed on a portfolio of 123 priority medium- and long-term development projects in agriculture, livestock, forestry and hydrology. The "Ouagadougou Programme," requiring an estimated \$1 billion investment, was presented to the donor community, but moral support did not translate into immediate financial support. By 1975, only 28 projects had been funded. Western donors realized that rehabilitation of the Sahel would require massive, long-term coordinated assistance, but also that Sahelians needed help in energizing the CILSS and mobilizing the resources for assistance. A special partnership between Sahelians and donors was needed.

2. Creation of the Club du Sahel

The idea of a coordinating body for the Sahel emerged from dialogue between A.I.D. and Congress in defining a U.S. post-drought aid program. It was agreed that the United States could not take a lead role in the region, but would participate in a humanitarian, economic and social development program with other donors, especially France. Dialogue was extended to donors and Sahelians through the Chairman of the OECD Development Assistance Committee, a former A.I.D. Deputy Administrator who had coordinated A.I.D.'s 1973 relief effort. An informal planning meeting was convened in 1975 at the request of the United States and France. Participants proposed a loose framework for donor consultation and coordination, a complement to bilateral and multilateral agencies. It was conceived as a forum for discussion and information exchange to support, not supplant, the efforts of the CILSS. Recognizing that such an entity would strengthen the CILSS and help continue its plans, CILSS heads of state approved the creation of a "Club of the Friends of the Sahel."

The Club du Sahel held its inaugural meeting in Dakar in 1976. It was attended by the eight CILSS states, twelve Western donor nations and observers from international organizations. Participants adopted a resolution formally creating the Club as an equal partnership between Sahelians and donors, mandating it to:

- o support the work of the CILSS;
- o inform the international community of the Sahel's needs;
- o foster donor cooperation in implementing projects and mobilizing resources; and
- o serve as a forum for development policy dialogue.

For maximum flexibility, neither statutory membership nor contribution quotas were imposed (members are the CILSS countries and currently about 25 bilateral and multilateral donor partners). Bureaucracy was kept small to divert minimum resources. The only permanent staff is a core Executive Secretariat attached to the OECD in Paris, with one representative each from the United States, France, Canada and the Netherlands.

The Club was charged with articulating a medium- and long-term development program, and established a joint CILSS/Club Working Group to tackle the job. Their analysis of the agricultural, demographic and economic potential of the Sahel culminated in presentation of a "Strategy and Programme for Drought Control and Development in the Sahel." Its goal was regional food self-sufficiency by the year 2000, in the context of a stabilized environment and sustained socio-economic growth. Priority sectors targeted:

- o dryland farming, (research and extension to double production);
- o irrigated agriculture (river basin control and village systems);
- o crop and harvest protection;
- o livestock (agro-sylvo-pastoral development, animal health);
- o fisheries (maritime and continental);
- o human resources (education/training reform, employment promotion, village-based health systems);
- o ecology and environment (agroforestry, conservation and forest protection)
- o adaptive technology (hydrology, remote sensing);

- o marketing/pricing/storage (legalization and support of private trade, coherent price policy favoring producers); and
- o transport and infrastructure (road construction and maintenance).

In response, the CILSS countries proposed a portfolio of over 650 bilateral and regional "First Generation" projects to achieve the Strategy's goals, requiring an estimated \$3 billion. The Strategy and First Generation Program were accepted by the CILSS Council of Ministers and by the Club at their 1977 meetings in Ottawa, sealing a "contract for a generation" of Sahel development. A set of priority projects was culled from the list, and technical teams prepared design packages. For the next several years, the Club met regularly to present project dossiers for donor consideration. Individual donors needed coherent strategies to guide their investments in the portfolio.

3. Creation of A.I.D.'s Sahel Development Program

Eclipsed by Asia, Latin America and the Middle East, Francophone West Africa had never been a priority for U.S. assistance. The late 1960s marked a period of steady reduction in aid to the region, in favor of more strategically- and economically-important countries (e.g., Zaire, Ghana, Nigeria). In the 12 years prior to the peak of the drought, U.S. aid to six of the Sahel countries totalled \$175 million, mostly channelled through African institutions. Grain stabilization programs began in 1968, with P.L. 480 Title II grants to five countries.

The picture changed dramatically with the drought. Between 1975 and 1979, total U.S. assistance including food aid reached \$439 million. Responding to appeals from the newly-formed CILSS, Congress authorized \$25 million for emergency and recovery needs in 1973, and \$85 million in 1974. Concurrently Congress recognized the need for sustained efforts to overcome endemic problems. The Foreign Assistance Act of 1973 supported the United States and donor efforts to develop a "comprehensive long-term African Sahel Development Program" (Sec. 639B), and the FY 1974 appropriation provided for a \$2-3 million per country Relief and Rehabilitation Program aimed at longer-term projects. The following year, Congress approved \$5 million to design a Sahel Development Program and \$68 million in assistance.

In 1976, A.I.D. submitted its "Proposal for a Long-Term Comprehensive Development Program for the Sahel" to Congress. Affirming the region's potential to improve and increase productive capacity, it suggested:

- o a 20- to 30-year integrated plan for food security through improved dryland techniques, small-scale irrigation and intensive river basin development, increased livestock and fish production;
- o priority emphasis on human resources, underlining the need for demographic data collection, educational reform, manpower and institutional development, low-cost village health systems and child spacing programs; and
- o selected investment in infrastructure and research, as keys to developing markets, alternative energies and communications networks (satellite imagery for forecasting and land use planning).

The first phase (1976-80) emphasized food crops and livestock, rural health and training, and focused on small-scale local activities. In the next decade, tested improvements in dryland production (storage, crop protection and marketing) and life-support services (health, nutrition, literacy) would be extended while planning for river basin development. The long-term phase (to the year 2000) would tap the larger resources of the region, particularly the river basins. The plan would require an estimated \$15-20 billion.

Congress responded with a mechanism for the United States to contribute to this massive effort, authorizing a \$200 million Sahel Development Program in the International Development Assistance Act of 1977. The separate account provided Presidential flexibility to "furnish assistance on such terms and conditions as he may determine" until the funds were expended. The program was to be carried out within the context of a multidonor program, with annual U.S. contributions not to exceed 10% of aggregate donor assistance. A first-year authorization of \$50 million was made for FY 1978.

In order to respond effectively to this mandate, A.I.D. first had to strengthen its own infrastructure. In 1973, country activities were managed out of A.I.D. Regional Offices in Niamey, Yaounde and Dakar, by a total staff of about 20 Americans. By SDP start-up in 1978, full-scale bilateral missions were established in Senegal, Mali, Chad, Niger and Burkina Faso, and offices created in the Gambia, Mauritania, and Cape Verde. Staff was increased from 5-10 professionals in each of the three regional offices in 1973, to a 1978 average of 24 in all countries but Cape Verde and the Gambia.

In the FY 1978-82 period--the time span of the First Generation Program--A.I.D. obligated a total of nearly \$400 million in SDP funds. The money was used to fully or partially support over 200 projects, primarily in agriculture, livestock, forestry/ecology and human resources development. Early efforts focused on an integrated rural development approach aimed at the "poorest of the poor." Implementation problems soon made it apparent that goals and projects were over-ambitious.

4. Re-Examination and Redirection

As fledgling organizations, the CILSS, the Club and the SDP had to "grow up quickly." The CILSS was deluged with unprecedented aid flows to the Sahel:

- o Total ODA commitments jumped from \$196.5 million in 1971 to \$755 million in 1974, within a year of CILSS' inception.
- o The Club helped mobilize even more funding. ODA commitments passed \$1.1 billion in 1976 and \$2 billion by 1981.

This influx stretched CILSS' personnel and resources to their limits. The Secretariat was expected to plan projects to utilize these funds but could not, hampered by weak support from member states. Dues were constantly in arrears and Sahelian countries were unwilling to surrender their "sovereignty" to a regional entity to plan projects for them. Creation of the Club strengthened the CILSS Secretariat as well as mobilizing donor support and help in solving problems.

Urgency to develop projects and disburse funds strained A.I.D.'s design and management capacity before it could adequately grow. Moreover, the integrated rural development approach spread A.I.D. efforts into nearly every sector before sufficient Sahel-specific sectoral expertise had been developed. Without a data base for planning, projects were based on over-optimistic estimates of Sahelian capacity and potential. The Club, too, suffered from short lead-time, having to begin a working partnership while building the trust and understanding needed to make it work. Donor resistance to a CILSS "shopping list" approach and residual Sahelian suspicions of the Club's intent created tensions compounded by multiple political agendas and cultures.

As the end of the First Generation approached, donors felt an increasing need to re-examine strategies for the Sahel. Despite massive investments in development, economic conditions had continued to deteriorate:

- o grain imports increased steadily from 1974 to 1982;
- o terms of trade had fallen in all of the countries between 1979 and 1982; and
- o by 1982, ODA represented an average of 17% of the GNPs of the Sahel countries.

Growing donor opinion held that no amount of aid could help develop the Sahel if major internal policy constraints were not removed. An overview of progress at the Club's fourth and fifth meetings resulted in new strategies and operating modes for the Club and CILSS.

Audits of A.I.D. projects, conducted at the request of Sahel missions in 1980-81, confirmed poor local accounting and records. A massive review was launched and local-cost disbursements were halted for projects with sub-standard tracking systems. In 1981, the Section 121(d) amendment was added to the SDP authorization, requiring A.I.D. Missions to certify the adequacy of host country accounting systems for tracking A.I.D. funds. Three actions ensued:

- o Sahel controller staff was strengthened and an intensive 121(d) certification process initiated (which is ongoing);
- o A.I.D. staff were trained to improve internal management and monitoring; and
- o in 1982, A.I.D. launched the Sahel Regional Financial Management Project, to improve host country accounting and financial management capabilities.

General management problems revealed by these audits led to a 1983 assessment of the SDP and the 1984 Sahel Management Assessment Team (SMAT) report. Both found the program's goals still sound and noted progress in the first generation. But a new, more flexible Sahel strategy was needed, to focus and reduce a diffuse SDP portfolio. The SMAT recommended greater use of non-project assistance, to reduce pressure on A.I.D. Mission management resources. These reviews led to the revised 1984 A.I.D. SDF Strategy, which provides present program guidance.

Based on sectoral recommendations in the assessments, the revised Strategy focused SDP efforts in a 20-year time frame on limited priorities within each sector:

- o agriculture (applied research aimed at animal husbandry, dryland and irrigated farming packages, data base development);
- o policy reform (stabilization, market liberalization, decentralization, private sector and producer incentives);
- o conservation and environmental protection (forest management, erosion control, reduced fuelwood consumption);
- o health and family planning (MCH, ORT, immunization, rural health systems);
- o training (building management capacity, extension networks); and
- o infrastructure (research and health facilities, roads).

The Strategy advocated reducing regional and bilateral portfolios, in terms of sectors and projects, based on performance, geographic accessibility of projects, and potential of beneficiaries to maximize assistance. Non-project assistance conditioned on policy reform was to be used as a primary tool for realizing strategy goals.

The A.I.D. plan paralleled the 1984 revised Club Strategy, which was theme rather than sector oriented. The Club Strategy stressed policy reform, regional cooperation, urban-rural integration and local initiative, and was organized around three goals set for the future based on recent trends in the Sahel:

- o Popular participation in development, through reduced government interventions and increased private initiatives to expand the role of local groups in input distribution, marketing and resource management.
- o Reconstruction of the Sahelian economy, through agricultural policy reform, integration of rural and urban economies, regional market development and structural adjustment to slow public spending and broaden the productive base (e.g., market reorganization to remunerate and protect producers).
- o Creation of a new ecological balance, by limiting pressure of an increasing population on resources through demographic planning and control, encouraging local participation in conservation and resource management, creation of appropriate economic and legal frameworks (e.g., energy price controls).

Reform extended to the CILSS and Club Secretariat as well. The Sahelian Heads of State initiated a review in 1982, based on growing donor dissatisfaction over CILSS' performance in planning programs and managing projects, coupled with continuing resistance of members to integrating CILSS activities into national plans. Although the findings were rejected, another independent study was carried out that eventually redefined the role of the CILSS and reorganized the administrative system:

- o The CILSS' role was limited to policy analysis and advice, coordination and documentation functions. Project design and implementation were removed from its mandate.
- o The Executive Secretariat and project development division were streamlined.
- o Monitoring and coordination bodies were added, and a planning and studies division created.

- o AGRHYMET and INSAH were put directly under Secretariat control and INSAH's mandate was limited to research planning and management.

In keeping with the priorities of the new strategy, CILSS' work was limited to food production and ecology. Despite trepidations that without a money-raising function member interest in CILSS would drop, the Council of Ministers accepted the report's recommendations in 1985.

The Club itself has served as a mechanism of evaluation, sponsoring general studies to reassess progress to date and prospects for the future. "Sahel Drought Control and Development Program 1975-79: Review and Analysis," for example, enabled an interim revised strategy in 1980. The recent Futures Study has indicated broad lines for current planning. The period of general review in the early 1980s revealed gaps between the work programs of the Club and CILSS Secretariats, indicating a need for greater donor involvement. This led to the creation of the Donors' Advisory Group.

Study and review are cornerstones of the dynamic process by which the CILSS, Club and A.I.D. SDP evolve constantly to meet changing situations and incorporate lessons learned. The following chapter looks at the results of this process.

III. THE RESULTS: "CAUTIOUS OPTIMISM FOR THE FUTURE"

A. Overview

Above all, the CILSS, Club and A.I.D. Sahel Development Program, and the strategies, programs, studies and projects they sponsored, have created a mechanism for confronting and redressing the chronic problems facing the Sahel. Thus, although in the Sahel of 1988, certain demographic, ecological and economic indicators look more ominous than before, there is satisfaction with the accomplishments of the past and cautious optimism for the future. This is because the indicators do not reflect the most important difference between the Sahel of 1973 and the Sahel of 1988: in 1973, Sahelian society found itself helpless against the onslaught of catastrophic drought; in 1983, the region successfully met the challenge of an even more severe drought and came out of the crisis in greater control of its future.

Why is the Sahel now in a better position to correct worse problems than it faced 15 years ago? Because there is a forum for dialogue and concerted action by Sahelians and donors. There is a coherent strategy for planning development and a base of experience that provides models for ecologically and socially appropriate projects. And in villages, marketplaces, Chambers of Commerce, national ministries and regional organizations, there is a development management capacity which never existed before. This capacity has been created through organizational structures, operational plans and proven technologies, in large part fostered through A.I.D.'s Sahel Development Program. Highlights include:

- o policy reform analysis and execution capacity in most development ministries, supported by A.I.D.'s AEPRP, P.L. 480 and other programs to help Sahelian governments undertake difficult reforms;
- o responsible financial management capacity in each of these public sector institutions, in part created through SRFMP training;
- o nationally and regionally proven Famine Early Warning System, drought response capability and more efficient food security management;
- o widening base of human resource capital, which is reflected in the health and adult education fields respectively by increased life expectancy and adult literacy rates, and a cadre of trained Sahelian (over 1,500 managers and technicians trained through A.I.D.'s SDP alone);
- o scientific agricultural research operations in nearly every country, capable of synthesizing improved technologies and on-farm realities, and spreading the adaptation process through extension work of other agricultural services;
- o incorporation of natural resource management objectives into the agricultural production goals of a wide range of rural development projects, from windbreaks in Niger's Majjia Valley millet fields to reclaimed rice paddies in the Gambia;

- o mobilization of participating local communities in the planning and implementation of a significant number of interventions--especially natural resource management and small irrigated perimeters--so that an important decentralization precedent has been set;
- o promotion of a wider plurality of private sector enterprises, through training, credit and organizational assistance; and
- o measures for curbing population growth rates through new family planning policies and nation wide services adopted in nearly every country, encouraged through A.I.D.-assisted research, demographic presentations and family planning projects.

In large part, these have ensued from actions focused by a long-term strategy and furthered by collaboration fostered through the Club/CILSS forum. This forum has nurtured openness that has allowed policy dialogue and helped mobilize unprecedented flows of resources to the Sahel. Collaboration on studies and projects has created specific instances of increased food production, improved health, and expanded income-earning opportunities that provide replicable models which give cause, according to the Office of Technology Assessment, for "cautious optimism for the future."

B. A Policy Reform Link Created

Prior to the existence of Sahelian-donor planning bodies and long-term programs, assistance to the Sahel was mostly reactive: immediate, short-term response to drought and famine. At the same time, African countries viewed the issue of policy reform as a matter of national sovereignty, and not a subject of international concern. The situation has changed dramatically over the past 15 years:

- o long-term A.I.D. and Club/CILSS Sahel Development Strategies provided catalysts for turning attention to underlying, chronic constraints to development; and
- o ongoing collaboration created an atmosphere of trust that opened up dialogue on policy reform.

The Club/CILSS mechanism encouraged the first move toward agricultural marketing liberalization, sponsoring the A.I.D.-funded study by Elliot Berg that set out, for the first time, the inconsistencies of cereals policies such as low producer prices, the ineffectiveness of parastatal marketing boards and government monopolies. To study the report in depth, the Club/CILSS sponsored the 1979 Nouakchott Cereals Symposium, the first candid dialogue ever held in the Sahel between donors and Sahelians on a sensitive policy issue.

A.I.D. has been one of the lead donors in encouraging policy reform efforts. Following the Nouakchott symposium, A.I.D. continued negotiations on cereals policy issues in nearly every country, using ISF and P.L. 480, as well as SDP funds, to support reform. As a result, in addition to recent developments described in Chapter I:

- o A.I.D.'s P.L. 480 Section 206 Cereals Market Restructuring Project augmented other donor resources in Mali to underwrite organizational reforms, cushion the short-term impacts of rising farm gate prices on consumers, and liberalize rice marketing. As a result, between 1980 and 1986, the official producer price rose by 57% for coarse grains and by 84% for rice. This development, along with higher rainfall, led to increased production that enabled Mali to achieve near self-sufficiency in food staples in 1986; and
- o The Niger Agricultural Sector Development Grant initiated in FY 1984, using a combination of ESF and SDP funds, linked a series of major policy reforms with support for ongoing agricultural production projects under a phased implementation schedule. Liberalized pricing policies enabled the GON to establish a substantial grain reserve prior to the impact of the 1983-85 drought. Positive effects of the progressive pricing posture were strengthened by the record cereal grain harvest of 1985.

Based on encouraging results in the agriculture sector, A.I.D. expanded reform efforts to address overall economic policies. The AEPRP described earlier in this report, launched in 1984, has supported reform through technical assistance and phased disbursements of dollars and local currency. AEPRPs and other reform efforts have helped:

- o The Gambia "float" its currency through a foreign exchange auction, thereby encouraging a more realistic market pricing of essential commodities; remove ceilings on farm gate and market prices for major agricultural products; and, increase prices on fixed-price items such as petroleum and rice.
- o Senegal reduce the fiscal deficit from 11.5% of GNP in 1980-81, to 3.5% in 1984-85 through various adjustment measures including tax and price increases, abolition of two parastatals, and 50% staff reductions in another agency. In addition, the measures described in Chapter I have helped growth in GDP average over 4.2% over the past three fiscal years.
- o Reduce the size of the public budgetary deficit in Mauritania from 9% of GNP in 1983 to 4.2% in 1985 by such reforms as decreased consumer subsidies on rice and gasoline and a parastatal divestiture program.

Reform has not been limited to policy. No other donor has done as much as the United States in helping improve financial and managerial operations of the CILSS bodies and Sahelian government agencies responsible for development management:

- o A.I.D. has used its role as the primary financial supporter of the CILSS to promote management reforms that have resulted in the present, more appropriate policy analysis mandate, as well reorganization and improved management systems.
- o The Sahel Regional Financial Management Project, created to improve overall accountability in A.I.D. projects, has provided technical assistance and training to host government accounting personnel that has extended beyond their work with the A.I.D. project portfolio. The quality of the program has prompted increasing requests for both public and private sector financial management training, and has helped improve financial tracking and accountability in host country agencies.

C. Response to Emergencies Improved: the 1983-85 Drought

In 1982, lower levels of rainfall began the same pattern of diminishing river levels and falling crop production that initiated the Great Drought. But this time the situation was worse, as the Sahel had not sufficiently recovered from the setbacks of the 1968-73 crisis. In Mauritania, a representative example, cereals production had fallen by 68% from 1969-70 to a 30,000 MT low in 1973-74. Although it rebounded to twice this amount by 1981, two years later it plummeted to half. While per capita grain production was declining from 1970 at about 2% annually across the Sahel, population was growing by about 3% per year.

The potential for disaster was far greater, but consequences were contained by the benefits of experience:

- o Sahelian states called for help at the first signs of drought, in contrast to the hesitation that had cost valuable time in the late 1960s. This was facilitated by ongoing communication with the international community and a forum to launch the appeal. And, it was possible because of improved early warning data on climate and crop production from monitoring networks such as AGRHYMET, created as part of the CILSS structure.
- o Donors reacted more quickly, based on better knowledge of the Sahel, its resources and problems. Data enabled early determinations of gaps between food production and food requirements. Donors were able to tap into a wider range of food distribution channels (PVOs, private transport firms) and develop innovative delivery arrangements such as triangular barter.
- o Infrastructure projects in the years since the Great Drought helped accommodate the deluge of aid supplies, especially new roads which enabled access to areas that had been cut off from assistance in the first drought.
- o With improved monitoring, corruption in distribution centers was minimal.

International relief began in the fall of 1984. Within half a year, \$2 billion in food and non-food aid had been pledged for the continent. Over 125 countries and 30 NGOs responded to a UN appeal for \$1.5 billion in the spring of 1985; the Sahel received just over a quarter of this aid. By the fall of 1985, the response to the crisis had far surpassed expectations. The United States alone had contributed \$1.2 billion in food aid to Africa--up to \$200 million from private contributions--representing nearly half of the total committed. By January of 1986, food aid was no longer needed in three Sahelian countries and had fallen to under \$5.5 million in three more.

Data collection and communication clearly had created a basis for improved response to crisis. In a study of U.S. response to the famine, comparison among Chad, Mali and Sudan revealed enhanced effectiveness of food assistance programs in the CILSS countries. This was attributed to greater donor coordination, early collective reaction, and donor-host government collaboration.

The experience gained during the latest drought fuelled continued efforts to improve response to problems in the Sahel. Two major developments in the past years are a direct outgrowth of the events of 1983-85:

- o the Network for the Prevention of Food Crises and Famine Early Warning Systems. In 1985, the Club and CILSS Secretariats called donors and Sahelians together to form a Network for the Prevention of Food Crises focused on further improvement and coordination of data collection and analysis. The Network meets yearly to review the food and nutrition situation in the Sahel. Actions include a "Diagnostic Permanent" project to develop an agricultural statistical base, and sponsorship of a 1987 appraisal of the many early warning activities that evolved during the drought. A.I.D. formalized its data collection activities in a Famine Early Warning System (FEWS) Project designed to support collection and analysis capabilities of individual Sahelian countries. The project, which provides monthly reports on climate, agriculture and food stocks in five Sahelian countries, is being expanded to strengthen the regional early warning system.
- o a "Code of Good Conduct" in Food Aid. The timing of food shipments just prior to harvests made it difficult for farmers to sell their grain. Local crop prices dropped, reducing the incentive to produce and setting back efforts to attain food self-sufficiency. As the drought ended, the issue of food aid as a disincentive to agricultural development was addressed by the Club, initiating a donor review of food aid policies, especially: food aid as competition for local crops; donor response to food aid over agricultural input needs; and insufficient use of commodities to generate income and assets for disadvantaged populations.

A.I.D. has actively pursued a development-oriented food aid policy, using the P.L. 480 program to support policy reform and self-help projects, as well as food-for-work remuneration in conservation and agriculture projects across the Sahel. Responding to a request at the 1987 meeting of the Food Crisis Network, the Club asked France to draft a Food Aid Charter for providing multiyear food guarantees and withholding call-ups in good harvest years.

Disaster preparedness continues to improve in the region since the 1984-85 relief effort, due to the creation of security stocks, improved distribution and logistics networks, and an enhanced ability on the part of the countries to assess food needs. It includes not only drought monitoring but response to migratory and local locust and grasshopper infestations that threaten crop production. Data from A.I.D.-supported bodies such as AGRHYMET can be used to predict the probability and location of outbreaks. The increased capacity in pest research and crop protection services is a direct result of A.I.D.'s support for these activities through the CILSS and national programs (see Section D.1.c.).

D. A Base of Experience Established

The past decade has provided the tools for developing culturally- and environmentally-appropriate projects, through:

- o creation of a data and experience base that has enabled A.I.D. to better understand the social, economic and ecological context of the region; and
- o constant and close scrutiny of the SDP--perhaps more than any other development program has been subjected to--that has generated a set of lessons to guide future project development.

The 1983 SDP Assessment and the OTA study of agricultural development in the Sahel, over a decade of experience and project evaluations have made it clear that:

- o recurrent drought is a permanent feature of the Sahel;
- o environmental stability is the sine qua non of agricultural development;
- o the diversity of soils and micro-climates makes it impossible to develop technology packages on assumed averages and disseminate them to other areas; and
- o top-down project design cannot work. Beneficiaries (farmers, herders and especially women) have to be included in project planning, research and testing, implementation and evaluation.

Sector-specific accomplishments and lessons are highlighted in the following sections.

1. Agriculture and Food Production

a. Rainfed Agriculture

Occupying the overwhelming energies of the Sahel and providing 75%-80% of all locally-produced food, dryland farming was the primary focus of the Club/CILSS and A.I.D. Sahel Development Strategies. Sector studies prior to development of a dryland program revealed that the principal constraints were weak research to intensify output and poor extension to increase limited adoption of animal traction, fertilizer and other improvements. An integrated rural development approach that addressed technological, economic and social activities in a single project was considered the most effective means to introduce change.

A.I.D. concentrated on agricultural research, manpower training and management support at the institutional level, and integrated rural development at the village level. Between 1975 and 1981, nearly \$900 million was spent in these areas. Research activities were supported in every country, as discrete projects or components of production efforts that have generated data on appropriate technologies and adapted varieties that show promise under difficult Sahelian conditions. These include:

- o in Senegal, an Agriculture Research and Planning project that helped redirect resources from irrigated rice to rainfed crop research and develop a collaborative on-farm testing program with farmers, and a Cereals Production Project that strengthened millet production by peanut farmers through research, development and extension of improved technical packages;
- o in Niger, a Cereals Research project, which contributed to development of a farming systems approach, fostered collaboration with Regional research institutions, and provided assistance that is likely to have contributed to doubling of millet and sorghum production in the decade following the Great Drought;
- o in the Gambia, a Training for Development project which created a training college for extension workers that has led to establishment of research and extension services for soil and water management and agricultural testing; and

- o following the 1988 bumper crop in Mali, the cereals market restructuring project (PMRC) achieved a remarkable breakthrough: on account of that project's support to cereals traders with financing and export promotion guidance and credits, for the first time ever farmgate cereals prices have not fallen in a surplus production year. On the contrary, these prices continue to raise. The implications of this breakthrough are not lost on Malian grain farmers: more fertilizer has been ordered for the 1989 season than ever before.

Integrated rural development projects were launched in five countries, and included:

- o Guidimaka IRD in Mauritania, which supported construction of firebreaks, creation of cooperatives, training of extension agents and establishment of health facilities that provided traditional herders with methods to secure production in one of the most drought-prone countries in the Sahel.
- o Operation Haute Vallee in Mali, to increase food crop production by rehabilitating rice polders, constructing access roads, establishing credit and animal traction centers, expanding health and literacy services, training extension agents. Research resulted in increased yields of millet (4.2%) and maize (11.6%).
- o Seguenega IRD in Burkina Faso, a PVO-run project that included health care, livestock production, literacy and credit (see box).

The 1983 SDP Planning Team and 1986 OTA Assessment, building on lessons from field implementation and project evaluations, concluded that:

- o Improved varieties of wheat, rice and corn that effected the Green Revolution in Asia and Latin America were not as easily adaptable to the Sahel as first anticipated. But research had contributed to some strong local increases including sorghum output in southern Mali and Burkina Faso, where improved local varieties had been accepted by farmers.
- o The "package" approach was not transferrable from Asia. Farmers accepted isolated elements that worked (use of animal traction increased in Senegal, Mali, Burkina Faso, and farmer-level techniques to reduce erosion were adopted in these countries as well as the Gambia and Cape Verde) but farmers tended to ignore complicated packages. The most successful technologies were found to be low-risk, affordable, and promised stabilized production with potential for substantially increased returns.
- o Integrated rural development projects were overly ambitious and placed too much of an administrative strain on Sahelian development agencies.

As a result, A.I.D.'s Revised Strategy focused on strengthening research to integrate dryland agriculture, livestock production, and forestry project activities, as well as, policy reform focused on expanding the role of the private sector in production and marketing. This approach is reflected in a reorientation of projects that includes:

- o introduction of an agroforestry component in Senegal's second phase of Cereals Production, to integrate soil and water conservation with millet, sorghum, corn and peanut production;

- o narrowing the focus in Mali's Operation Haute Vallee follow-on activities, to concentrate on privatization of the OHV organization's services and strengthening of producer groups through training and credit; and
- o coordination of policy reform and production projects in a complementary package, as in Niger. ASDG policy reforms favoring rural credit unions are reinforced by training and credit for cooperatives provided through the APS project.

Seguenega: A Portrait of Integrated Rural Development

The Seguenega Integrated Rural Development Project in northern Burkina Faso reflected the philosophy of the late 1970s: successful assistance efforts had to address interrelated aspects of development. Seguenega IRD began in 1978 with a \$5.8 million grant to Africare. By the time A.I.D. conducted an impact assessment in 1984, accomplishments could be seen in:

Health. About 30 village health teams had been trained and had set up pharmacies. Three health posts had been built or renovated with A.I.D. funds, the Seguenega Medical Center had been upgraded and gotten an ambulance, and the government had posted the first full-time doctor to the area. Neonatal tetanus was down after midwives had been trained to teach new mothers to use disinfectants.

Crop Production. Market and school gardens were started and being managed by village groups. Vegetables unseen outside of large cities (Irish potatoes, green beans, cabbage, carrots, lettuce) were being grown, and after initial hesitation, being eaten. Potatoes were marketed through an arrangement with the local produce cooperative and providing good returns. The project provided the first affordable credit, 8-10% instead of 100% interest charged by traditional money lenders, and repayment was running at about 96%.

Livestock. About \$750,000 of A.I.D. funds were invested in livestock. Training manuals in French and local languages were produced on small ruminant and poultry-raising. The most successful component was a cross-breeding and fattening program using the fast-growing Bali-Bali ram that brought quick profits.

Roads. 106 km. of roads were improved, using local labor (over 6,000 villagers participated in work brigades) and local materials (cross-washes, for example, instead of metal or concrete culverts) wherever possible.

In addition, 25 village woodlots were established and 58 wells dug. Was this too much activity? The evaluation found that after a slow start, the project had accomplished most of its goals. "Some of us continue to believe that IRD is the key to development in Africa," says C. Payne Lucas, Executive Director of AFRICARE. "One aspect of development (wells in Seguenega, for example) impinges on everything: people's health, livestock and crop production. IRD is difficult to coordinate and manage. It requires a long-term commitment and long hours of work. But, it pays off with long-lasting results"... such as continuing local decision-making and production in Seguenega.

b. Irrigated Agriculture

Since irrigation held promise for feeding the Sahel--estimates of up to 2.5 million hectares possible for production--and exploitation of the region's river and underground water resources seemed the key to reducing vulnerability to drought, an ambitious program was proposed in the Club/CILSS Strategy, to develop 500,000 irrigated hectares by the end of the century. Actions focused on rehabilitation of existing structures, comprehensive training programs, studies for future river basin development, and strengthening the administrative capacity of regional river basin agencies, as well as small-scale village and pastoral hydraulics systems.

A.I.D. did not contribute to the massive investment in dam construction, concentrating instead on diagnostic studies to build a data base and strengthen the planning capabilities of the regional river basin agencies. From 1975 to 1986, \$60 million was authorized to produce:

- o aerial photography and mapping, and studies to determine the impact of large-scale irrigation for master plan development, and a groundwater monitoring network that has enhanced OMVS (Senegal, Mali, Mauritania) data collection capacity;
- o comprehensive survey (aerial photography, mapping) of the entire Gambia River Basin, socio-economic and environmental impact assessments of two planned dams, U.S. training for staff and natural resource management support to OMVG (Senegal, Mali, Guinea); and
- o a comprehensive development plan, river systems analysis and staff training for the Niger Basin Authority (including Niger, Mali, Chad, Burkina Faso).

In addition, A.I.D. contributed to the development study for the Lake Chad Basin Commission (Chad, Niger, Cameroon, Nigeria). These studies helped the Sahelian agencies create a data base necessary for planning, according to the 1986 Regional Inspector General's audit. As a result, original goals and projects could be reassessed, resulting in changes in placements of dams, and scaled-down estimates of yearly hectare targets. The audit also found that the planning capacity of the regional organizations was still weak, reducing their capability to utilize the data and function effectively; as a result, A.I.D.'s greatly-reduced involvement with river basin authorities is focusing on management interventions such as fiscal allocation and administrative reorganization plans for OMVS.

Evaluations indicated general difficulties with large-scale irrigation schemes. As a result of experience, the revised Club/CILSS Strategy eliminated unrealistic quantitative targets, and emphasized strategic directives to increase profitability of investments by concentrating on lowering investment costs through appropriate, ecologically-sound designs and decentralization of management and maintenance, and emphasis on small-scale perimeters manageable by individual producers. For A.I.D., the new strategy represented a continuation of, rather than a shift to, development of environmentally appropriate, smaller scale irrigation schemes.

A.I.D. investment in irrigation projects had focused on small- and medium-scale systems in Senegal, Mali and Chad, that supported user associations as well as infrastructure development (see box). These community or individually managed systems showed promise as replicable models, and by 1984, A.I.D. was turning attention to spreading the Bakel experience to other sites in the Senegal River Valley. Thus, the 1983 SDP Assessment concluded that: "by undertaking these [small irrigation projects] early in the program, A.I.D. has been able to provide a basis for future activities... Mali's Action Ble project did provide many pumps which the farmers have adopted and put to use to significantly and economically increase their production (partly by reducing their dependence upon official services and finding their own alternative supply systems). In the case of the small perimeters at Bakel in Senegal, A.I.D. has been able to develop a model for small perimeters, based upon good farmer organization and limited official participation."

In Irrigated Perimeters, Small is Workable

After the evacuation of expatriates from Chad in 1979, Americans still in contact with N'Djamena heard stories of a project that was continuing on its own. In 1977, the PVO SAWS began an A.I.D.-funded small irrigated perimeters project on the Chari River, about 40 km from the capital. By January of 1979, 50 farmers were working 18 ha, raising fruits and vegetables for local consumption and the expatriate market; yields were four times the estimated \$180/hectare. Farmers were organized into a cooperative, charged for water use but provided with inputs, extension and marketing services. Members came to N'Djamena every two weeks to sell produce, buy fuel or parts and make bank deposits. After civil war had paralyzed the city, they were still coming to town. In 1985, according to ADRA (ex-SAWS) Executive Director Ken Flummer, a ceremony was held in Gargara to transfer ownership of all equipment--including the original pump still in working order--to the cooperative. Flummer says an "unbelievable emphasis" on maintenance made the project work; a former project manager said it was the decision to start small and go slowly. At the other end of the continent, another project was starting small and going slowly toward the same conclusions: by 1978, the two-year old Bakel Small Irrigated Perimeters project had carved 260 hectares into 17 family-sized plots, equipped them with hand-operated distribution systems, and turned planting, management and marketing responsibility over to the producers. Yields for corn and rice were already at projections for Year 8, and two years later, farmers began marketing. This was a first for the Senegalese irrigation authority, SAED, which managed large lowland submersion schemes that had not lived up to expectations. By 1984, the \$8.2 million project was working in 28 villages, on a total of 800 hectares. There were technical problems with pump design, and economic problems from planning, but evaluations repeatedly pointed to one area where there was no trouble: active farmer involvement. "More local responsibility" seemed to be the message. SAED developed a three-year disengagement plan for turning construction and maintenance over to private contractors. Farmer contributions were increased and village maintenance accounts started. And A.I.D. designed a new project to turn the Bakel experience into a replicable prototype for small perimeters that can make a big difference in farmers' lives.

c. Crop Protection

Rain does not guarantee harvests in the Sahel--when there is enough for crops to grow, they often are ravaged by birds, locusts and grasshoppers in the field, and rodents in storage. Since the early 1970s, the CILSS countries have been active in regional organizations aimed at pest control, such as OICMA (directed at locusts) and OCLALAV (against birds and grasshoppers). Activity was intensified after a 1976 FAO Crop Protection Conference and the founding of the Club, which sent a multidonor team to Sahel countries to develop a five-year protection program. The program focused on an Africa-wide, producer-oriented approach, specifically aimed at:

- o reinforcing national and regional crop protection services;
- o implementing research programs on pest and disease outbreaks;
- o establishing a regional surveillance and warning network; and
- o research on effective post-harvest storage and rodent control.

As part of its overall emphasis on agricultural research and institutional development, A.I.D. has been active in crop protection since the inception of the SDP. Funding for a regional Integrated Pest Management project, which ended in 1987, began in FY 1978 and provided over \$37 million for development of monitoring systems at CILSS headquarters and in individual countries. During the life of the project, facilities (laboratories, observation posts) were built or upgraded in all of the countries, staff received Master and Ph.D. level education, and training was provided for researchers in-country. A 1986 tripartite A.I.D./CILSS/FAO evaluation cited project results that included:

- o enhanced CILSS governments' awareness of the importance of IPM in national planning goals;
- o extension personnel and farmers shown the benefits of simple crop protection measures;
- o acquisition and storage of bio-climatological data as a result of information supplied by the observation network; and
- o a cadre of "young research talent" trained to continue project activities (75 Sahelian researchers where there had been 10 at the project's start).

The 1983 SDP Assessment cited the need to continue the "difficult task" of creating a regional research system--a joint venture primarily by CILSS, A.I.D., UNDP and FAO--given the importance of crop protection in increasing net usable agricultural yields. The efforts have paid off, as reflected in the ability of the Sahel countries to respond to recent pest infestations. In 1986, migratory and local grasshopper and locust outbreaks followed the good rains that yielded record harvests. Using early warning systems such as AGRHYMET to predict probability and location of outbreaks, donor efforts were mobilized to mount a massive spraying campaign in the fall, supported by IPM and the AELGA projects. As a result, major losses on grain crops were averted.

d. Livestock

Before the drought, the Sahelian herd was estimated at about 20 million cattle and somewhat less than 40 million sheep and goats. Drought slashed the size of the sub-regional herds, literally and figuratively killing the major exports of

Burkina Faso, Chad, Mali and Niger. Thus, livestock development was a prominent concern in the SDP Strategies. A.I.D.'s 1980 "Sahelian Livestock Industry Status and Development Strategy" indicated that unless extensive measures--averaging \$55 million per year initially--were instituted to reach an annual growth rate of about 1.5%, output could not increase to meet local and export needs. These levels were met halfway by donors: from 1975-81, ODA averaged \$33 million per year and \$26 million between 1981 and 1983.

A.I.D. invested heavily in the program, providing roughly one quarter of donor funds. Both the original and revised strategies have directed A.I.D. efforts toward water point development, animal health research and delivery, range and grazing management, and improved production methods. Projects have included:

- o a Range and Livestock Management project in Niger that generated the first solid baseline data on vegetative resources and sociological study of traditional herder range use and animal husbandry, and trained a cadre of Nigerien specialists;
- o a Livestock Production project in Senegal that resulted in a comprehensive plan for forage and water production, and funded construction of extension stations, training of technicians and reforestation of areas around overgrazed water points; and
- o a first phase of the Mali Livestock project that developed on-farm and industrial feedlots. Experience showed that draft animal feeding using crop residues was a profitable seasonal activity, but commercial lots are not viable. In an extension of the oldest project in Mali, support was provided to the Central Veterinary Laboratory in Phases I and II of Mali Livestock, creating a local source of quality rinderpest and other vaccines for domestic use and export.

Any progress resulting from these actions was set back during the 1983-85 drought: the bottom fell out of the livestock market as herders dumped dying cattle, and herd increases were wiped out. Overall, livestock industry growth has not been healthy, as reflected in the 50% decline in real-value live-animal and meat exports to the CWA States over the past decade. Despite setbacks, evaluations point to instances of success, such as improved animal health services and increased use of crop residues for fodder. The A.I.D. SDP Assessment cited the vaccine production unit of the Central Veterinary Laboratory, now largely self-sustaining, and related services, as efforts that have "proven to be effective, popular and profitable, to the extent that herders find it in their interest to seek out and pay for the costs of these services." Experimental techniques in range management, marketing and production, creation of watering points and catchment ponds, and introduction of trypano-resistant cattle in tse-tse-infested areas all have yielded promising results that are being tested in other areas.

2. Ecology/Environment/Forestry

Environmental stabilization is second only to food security in the central goals of the Sahel Development Program: "food self-sufficiency would be meaningless if it was precarious, detrimental to soil or not accompanied by a new ecological equilibrium," according to the original Club/CILSS strategy. Reforestation to regenerate plant cover and meet increasing needs for fuelwood was the primary concern. However, before 1975, little reliable data on fuelwood consumption in the Sahel existed. In 1978, the CILSS/Club sector team presented the results of their research on "Energy in the Development Strategy of the Sahel," that provided the first clear--and troubling--picture of fuel consumption. Wood was by far the most important energy source in the Sahel: 85% of the region's energy was supplied by approximately 16 million tons consumed annually. Per capita consumption was high--0.6 cubic meters per capita annually--and with population growth, increasing wood consumption would lead to irreversible deforestation.

In light of these findings, a large-scale campaign of peri-urban, industrial and village plantations was proposed, as well as conservation measures such as use of improved stoves, rangeland management, and soil protection. The work of the sector team focused donor attention on the fuelwood crisis in the Sahel, and helped mobilize unprecedented funding for environmental protection. From under \$6 million in 1976, support for the sector rose to an average of \$40 million per year in 1981-83.

Majjia Valley Windbreaks: Changing the Look and the Lay of the Land

The landscape in Niger's Majjia Valley has changed since the early 1970's, from windswept expanses where farming was extremely difficult, to fields of cereals broken at regular intervals by straight lines of trees. These trees--double rows of neem or acacia--are the first line of defense in a comprehensive campaign by A.I.D., Peace Corps, CARE, the Nigerien Forestry Service and local farmers to block erosive winds, and in the process replenish diminishing fuelwood and fodder supplies. The initiative began in the mid-1970s, with experiments by a Nigerien forester and a Peace Corps volunteer planting trees perpendicular to winds that were carrying off topsoil and shearing young plants as they grew. Trials continued over the years, and CARE, Peace Corps and GON foresters mounted an intensive field effort to convince farmers that it was worth taking some land out of production for the trees, in exchange for more hectares saved. Harder still, was convincing women to pen their small animals to prevent snacking on the seedlings; the project helped support pen construction and guards. Since 1975, over 400 km of windbreaks have been planted, double rows spaced 100 meters apart marching perpendicular to prevailing winds. The neem trees are trimmed and grow back rapidly--about 2.5 meters in the same number of years--providing a harvest of poles and fuelwood as well as leaf litter for animal feed. Between the trees, harvests have fared well--studies indicate that millet yields have increased by 17%. The success is being replicated outside Majjia Valley and outside Niger: in 1985, CARE brought farmers from Mali's Fifth Region to the Valley and to sites in Burkina Faso; as a result about 80 villages in the Region have started forestry projects, about half planting lines of defense against the winds.

As of 1980, the United States had committed \$51 million--nearly one quarter of total ODA--to the forestry/ecology sub-program, concentrated in forestry and soil and water conservation. Funding contributed to:

- o a Forestry and Land Use Planning project in Niger that created a unit within Niger's Forest and Water Service to develop a long-term plan for soil and water protection. The project has created local natural resources planning capacity that has enabled coordination of donor activities and development of land-use plans that can serve as a model for the rest of the Sahel. It also set up model production and conservation management sites which have shown that long-term actions that give rural populations control over their resources have the best potential to arrest ecological decline (see box, Chapter I).
- o a Forestry Education and Development project in Burkina Faso that has turned the Dinderesso Forestry Training Center into a practical training institution for junior-level forestry agents. The project also enabled forestry planners to develop a management plan for an adjoining 6,000 hectares national forest, which served as a model for the rest of the country.
- o Renewable Energy projects in Mali and Senegal that helped increase fuelwood supplies with village woodlots, while reducing consumption through improved charcoal production and cookstoves. These were supported by a Sahel-wide project to design and introduce fuel-conserving stoves (see box below). These projects also tested experimental technologies using wind and solar power, which showed that the most appropriate technologies for the Sahel were the most simple.

Natural Resource Management Policy Breakthrough

At the end of May 1989, in Segou, Mali, CILSS and the OECD's Club du Sahel hosted a precedent-setting roundtable uniting donors, host governments, PVOs and the representatives of farmers' organizations. This "encounter" was convened to address the problems constraining renewable natural resource management (RNRM) in the Sahel. This is the first time that all of these development "partners" had been brought together to confront this fundamental issue. To everyone's surprise there was an enormous amount of agreement on how RNRM needed to be done differently in the Sahel. Thus, the Segou "orientations" unequivocally condemn certain Sahelian government policies and practices (e.g., centralization of authority and state "ownership" of land) as preventing effective RNRM at a local level. These "orientations", therefore, point to a future characterized by:

- o a decentralization of authority, and responsibility, to local, land owning groups, with appropriate adjustments in the reigning administrative edicts and land tenure laws;
- o A recapitalization of the land through careful investments reinforced by local-level savings mobilization and realistic credit schemes;
- o enhanced women's participation in stronger local groups with training and information networking interventions designed accordingly; and
- o the implementation of the new population control policies recently subscribed to be the CILSS member countries.

With orientations as far reaching as these, and given the influence of CILSS with its Sahelian member states, bilateral missions should be able to negotiate the necessary RNRM policy reforms at a more rapid pace.

"Utilisez les Foyers Ameliores": A Welcome Sign in Mali

On the outskirts of almost every town and village in Mali, road travellers are welcomed by a sign encouraging them to "utilisez les foyers ameliores." These signs, which direct people not to a local eatery or hotel, but to "use improved woodstoves," were a rare sight at the start of the decade, limited to villages in the VITA Woodstoves Project which ended in 1988. A.I.D.'s support to CILSS through the Sahel Regional Woodstove project and individual projects in Burkina Faso, Niger, Senegal and Mali has changed the way many Sahelian cook. Early research produced models of easy-to-build, easy-to-maintain clay stoves, to replace the traditional method of a cookpot balanced on three rocks over an open fire: the Senegalese "Ban ak Suuf" and the Kaya stove from Burkina Faso are now classics. In Mali, A.I.D.'s Renewable Energy project funded design of three sand and clay models, introduced through a demonstration and training campaign by Peace Corps volunteers; initial resistance gave way to interest, as villagers saw that fuelwood could be saved, conserving human as well as renewable energy; users claim the stoves consume up to 50% less wood. In 1984, the government issued a decree requiring all Malians to use improved stoves. But consumers complained--the fixed stoves were massive, and they wanted a portable model. VITA conducted a baseline study on household fuel consumption, and then went to work on a design. In 1985, A.I.D. supported a nation-wide campaign for training artisans to make and market fuel-efficient, metal portable cookstoves. Throughout the country, the Forest Service, National Literacy Program, Malian Women's Union, Peace Corps volunteers and Solar Energy Research Institute trained artisans, from rural blacksmiths to members of a Bamako handicapped center who now have a source of income. The stove model was promoted by the National Malian Women's Union and over 12,000 were made and sold by the time the project ended in 1988.

At the same time, efforts were directed at other environmental and human abuses--wind and water erosion, saline water intrusion, over-grazing--that were steadily diminishing limited arable land. A.I.D. projects concentrated on conservation and rangeland management, including:

- o a **Renewable Resource** project in **Mauritania** that supported a national renewable resources management plan which integrated dune stabilization, range management and forestry measures; and
- o a project that established a **Soil and Water Resources Management Unit** in **The Gambia** and trained local staff, creating in-country extension capacity for village-based conservation projects (see box, following page).

Based on evaluations that indicated the greatest success in small-scale interventions where villagers were most active in planning and management, revised Club/CILSS and A.I.D. strategies accented two priority areas of action: reform of policy regarding land use and natural forest management, as well as revision of project design to expand popular participation in conservation and resource management. On the basis of lessons learned, new approaches were developed, such as village-based work groups and measures to involve farmers in actions to integrate agriculture and forestry. As a result, across the Sahel farmers are constructing windbreaks, villages are managing woodlots, community groups are building terraces and dikes that sow the seeds of a grass roots fight against environmental decline.

Conservation in the Gambia: An "Indispensable Part of Development"

"In the village of Tendaba in The Gambia, a song rises from the rice paddies as women plant rice seedlings... Dozens of women work in the same paddy, their motions accented by the beating of drums... 'We feel like celebrating, too,' says Mission Director Jimmie Stone. 'USAID staff worked closely with Gambians to bring this land into production.'" So begins an article in the August 1988 issue of A.I.D.'s "Front Lines" magazine, highlighting nearly 10 years of efforts to help reclaim land rendered barren by saline river water and erosion. It is the story of a \$2.9 million project instrumental not only in village conservation, but in developing the institutions and trained personnel to enable the Gambia help its people. First, the project supported creation of a Soil and Water Management Unit in the Ministry of Agriculture and Natural Resources. U.S. Soil Conservation Service experts helped turn it into a practical extension agency, providing on-the-job training to Gambian staff as they returned from degree programs in the United States and Nigeria. The SWMU developed soil and water conservation field manuals, and a two-year college curriculum to train agricultural assistants, preparing agents to help farmers organize local conservation committees and develop action plans. In Tendaba, villagers chose to build earthen dikes to keep out saline water; other villages have opted to construct contour berms, dikes, and channel diversions to combat erosion. In all, about 1,730 acres of upland cereal land have been reclaimed by men, while women have regained about 1,630 acres of swamp rice fields. According to farmers, production has doubled and tripled; according to a former SWMU director, "they praise Allah and SWMU for such good luck!" Today, the Unit is Gambian-staffed and run, all staff slots made civil service positions by the government last year. As President Sir Dawda Jawara described conservation in commissioning the first Conservation District last year, the SWMU, too, is "an indispensable part of development."

3. Health, Nutrition and Population

In the original Club/CILSS strategy, health was accorded a "secondary but not unimportant" place. It was combined with education in a Human Resources section that gave only cursory mention to health problems cited as "among the most serious in the world." The average life expectancy is 44 years, compared to 59 years in

the rest of the developing world. Infant mortality is over 50/1,000 greater than in other developing countries, and Mali's 1986 rate of 180/1,000 is one of the highest in Africa. Malaria, diphtheria, whooping cough, polio, cholera, tuberculosis, tetanus and meningitis all pose chronic, epidemic threats. The Strategy focused on village-based primary health care systems that integrated modern and traditional medical practices, strengthening parallel efforts to control endemic diseases. Between 1975 and 1981, about 2.7% of ODA to the Sahel was spent on health.

A.I.D. funding accounted for 12% of this \$256 million, making it the fourth largest donor to the sector. In the 1970s, projects to reduce mortality and morbidity through development of village health systems were launched in six Sahelian countries. These included:

- o Niger's Rural Health Improvement project, that helped establish a national Village Health Worker network and provincial health centers;
- o Senegal's Sine Saloum Rural Health project, which created a regional network of village health huts and trained personnel, as well as a Family Health project that integrated family planning and MCH programs into urban clinics; and
- o Mali's Rural Health project, which supported development of a rural dispensary network, as well as training of village health workers.

Early experience in these projects revealed needs for broader interventions, ranging from assistance in health planning and financial management, to child survival and population control in addition to village health programs. The revised A.I.D. SDP Strategy reflected this in a separate section on health, nutrition and population. It expanded the range of health interventions to include diarrheal disease control, MCH programs (immunization, ORT, anti-malarial treatment), data collection for health planning and disease surveillance, and family planning. New activities that reflect this reorientation have included Mauritania's 1985-86 national immunization campaigns that covered over half of the country, and cost recovery studies in Senegal that led to charging of users' fees (see box, Chapter I).

In 1984, the revised A.I.D. SDP Strategy noted that, "A.I.D. is one of the few donors with an interest in addressing population growth in the Sahel." The need was serious: the population was 35 million, which had doubled since independence. The average growth rate for the Sahel was 2.5%, and nearly double in urban areas. At the same time agricultural production was decreasing steadily, each farmer supported 2.8 persons, but by the year 2,000 would have to support 3.6. The A.I.D. Strategy called for continuation of activities to increase the awareness of policy-makers across the Sahel, of the economic implications of population growth. These included data collection, informational materials development and service delivery.

The United States has been credited with almost single-handedly turning the attention of the Sahelian governments to the pressing need for policies and programs aimed at population control, resulting in:

- o revised legal codes in Niger, Senegal, Mali and Chad, largely on the basis of data from CERPOD and RAPID presentations; and
- o increase in user prevalence in Senegal and Mali as a result of A.I.D. projects to support clinic construction, contraceptive research and distribution, education and training.

The International War Against Onchocerciasis

Twenty years ago, the WHO sponsored a conference on onchocerciasis, ("river blindness"), a disease carried by a small black fly that has infested most African river valleys for centuries. Nearly 4,000,000 people were at risk in an area of over 2,000,000 sq km; in heavily-infested countries, blind men and women guided by children were a common feature of village life. The conference called for a united effort to eradicate "oncho." It was answered by a two-decade effort that has joined over 20 donors in a campaign of drug research, spraying and treatment covering 11 African countries. The United States has been actively involved from the beginning, providing about \$2.5 million per year and private sector technical assistance. The project started in a core area of most severe infestation: Niger, eastern Mali, Togo, Ghana, Benin, Ivory Coast and Burkina Faso, the project's headquarters. After surveys by teams of doctors and entomologists, spraying campaigns bombarded infested water-courses with larvacides; an American helicopter company was hired to do the spraying, and an American chemical company developed one of the sprays. By 1987, 670,000 sq km had been sprayed and the disease was under control. In the second phase, the project is moving into western Mali, Senegal, the Gambia and Sierra Leone. At the same time, project-sponsored research conducted by Merck, Sharpe & Dohme revealed that a drug to treat the disease in livestock showed promise for humans. Merck has donated supplies of the drug for field tests, which will continue until 1989. It is not a cure, killing only micro-filaria (baby worms) before they can cause the scarring that results in blindness; research is continuing in the United States and Europe to find a drug to kill the adult worms. Meanwhile, in Burkina Faso, where a decade ago 10% of the population was condemned to total or partial blindness, 30,000 sq km of new lands have been opened for settlement and widespread blindness is part of the past.

Sahelians can point to significant progress in the health sector over the past decade. New models of primary health care, such as those developed through A.I.D. projects, have succeeded in bringing services to rural areas for the first time and are being expanded. Onchocerciasis is being eradicated (see box above) opening new lands for settlement, and removing the threat of blindness for thousands. Child survival, immunization and disease prevention campaigns have contributed to:

- o a decrease in child mortality of about 25 deaths per 1,000; and
- o an increase in life expectancy by about 8 years.

4. Education and Training

From the beginning, the need for a trained workforce was recognized as a key to Sahel development by donors and Sahelians alike. The Club strategy called for development of an educational system adapted to the needs of Africa and accessible to most rural populations. Actions centered on expansion of specialized schools related to productive sectors (agriculture, livestock, fisheries, etc.), and of non-formal education programs to increase rural capacity for self-development (artisan training and functional literacy), as well as reform of primary and secondary curricula. Special attention was given to training for creation of employment opportunities (see box below). But education received relatively low financial support, increasing from \$45 million in 1975 to just \$58 million in 1981.

A.I.D. made training a feature of almost every project, devoting increasing resources to functional and non-formal education: commitments grew from \$2.7 million in 1976 to about \$9 million in 1983. Training activities focused on:

- o education of parents of schoolchildren, through development of literacy and training materials in local languages. Functional literacy was made a component of most large integrated rural development projects such as Operation Riz in Mali and in Senegal's Agricultural Development Assistance project, which helped over 3,000 farmers learn to read. Non-formal health and agriculture education, through radio and extension programs to reach rural populations, also were promoted.
- o technical and management training for personnel in agriculture, health and other key areas, to build the institutional capacity for research, training and service delivery. A training component was added to almost every A.I.D. project, that allowed host country staff opportunities for United States and third-country degree training.

In the decade since these efforts began:

- o literacy has doubled to about 15%.
- o Skilled Sahelian technicians are staffing specialized institutions in areas where there was no local capacity. Over 1,500 Sahelians have received high-level training since 1978 through the Sahel Manpower Development and Sahel Human Resources Development projects. In crop protection, for example, A.I.D. training has created a region-wide cadre of 55 advanced-degree specialists, where there were none before.
- o Sahelian training and research institutions are operational, staffed, and using curricula and materials appropriate for the region. A.I.D. funding has been instrumental in establishing or strengthening schools in Senegal, The Gambia and Burkina Faso, that are able to train mid-level managers, conservationists and rural extensionists.

Training for Better Business in Mali

It is 7:00 p.m. in Segou, a time when most Malians are relaxing with family and friends. But at the Regional Chamber of Commerce, 13 students are spending their evening with FIFO, the theory of First-In-First-Out being introduced as part of an A.I.D.-supported stock management course. Since 1985, Sahel Human Resources Development project funds have enabled Chambers of Commerce in three regions to run courses aimed at improving small enterprise planning and management. Evening courses in accounting, commercial law, stock management and marketing are taught by local instructors from business, schools and government agencies. The classes attract a wide range of participants, from owners of small shops and the relatives who assist them, to managers of factories and government employees thinking of going into business for themselves. The business people get a bonus: on-the-job training from advisors and specially trained, locally recruited consulting assistants who visit them at work to help put into practice what they learn in class. The project is an A.I.D.-Peace Corps partnership: A.I.D. funds instructor fees, consultant stipends, materials development and administrative costs. Peace Corps volunteers work as counterparts to Chamber of Commerce staff, designing courses and advising small businesses, as well developing promotional materials. About 500 current and future entrepreneurs have been trained by the project; some are keeping books and recording transactions for the first time in their commercial careers.

5. Transport and Infrastructure

Upgrading and maintenance of the existing road system was identified by donors and Sahelians as the most critical element in developing a Sahelian transport network, especially aimed at moving agricultural products to market and promoting intra-zonal trade. A.I.D. was instrumental in helping define country-level priorities, supporting the CILSS' preparation of a "Road Diagnostic Study" that defined a program for each state. It included construction of agricultural access roads in Burkina Faso, improvement of seasonal tracks in Mauritania and evacuation roads for irrigated crops in Chad.

Although A.I.D. addressed the wider range of infrastructure related to agricultural production, health and education, roads for moving produce to market and food supplies to rural populations were given importance. During the Sahel Development Program:

- o a 233 km all-weather road in Mauritania to improve food marketing and delivery to isolated rural areas was completed, ahead of time and under cost (see box, Chapter I);
- o road maintenance and training programs have been important features of the Chad program since the late 1970s and currently include efforts to reclaim and repair abandoned equipment; and
- o 106 km of roads were improved, mostly by village groups, in the Seguenega IRD project in Burkina Faso.

The original Strategy opposed large infrastructure projects, but the revised strategy oriented A.I.D. selectively toward "large-scale road projects, particularly if they can be implemented with other donors, such as the World Bank, under a joint funding arrangement to achieve management efficiencies." This is being done in the current Chad project, where A.I.D. and the World Bank have begun coordinated financing of road construction activities.

Targets for other types of infrastructure were set by sector in the SDP strategies; A.I.D. has concentrated on smaller works related to production components of projects, and funded grain storage facilities, service and administration buildings, clinics and health posts, schools and training centers, as well as water, conservation and irrigation structures. These have included the agricultural research stations, irrigation systems, waterpoints, and health facilities described in this report.

E. Collaboration and Coordination Enhanced

The CILSS and Club du Sahel have provided organizational frameworks for on-going coordinated efforts by donors and Sahelians to confront problems facing the Sahel. Coordination has been enhanced through:

- o studies carried out jointly by Sahelians and non-Sahelians;
- o Club Conferences, scheduled concurrently with CILSS meetings, which provide an informal opportunity for reviewing studies and strategies; and
- o smaller colloquia that focus on a single country or issue, allowing adequate time for in-depth exchange of view on sensitive issues.

The process is not always smooth, but members have overcome difficulties through frank discussion. The Club forum has served as a mechanism for resolving tensions and disagreements (e.g., over the CILSS mandate, respective Club/CILSS functions). The ability to disagree openly has generated a level of trust on sensitive topics that has been praised as a measure of successful North-South collaboration.

Cooperative efforts have resulted in:

- o An expanded Sahelian information base, through joint research and communication of results. Prior to Club/CILSS-sponsored studies, little was known of the socio-economic and cultural environment of the Sahel. Today an impressive library of documentation has been generated by sectoral, regional and country studies undertaken to assist in program planning. This information has helped donors and Sahelians orient activities, improve planning, and prioritize assistance choices, proving valuable not only for educating donors to a region mostly unknown to outsiders, but for informing Sahelian policy-makers on the problems and needs of the rural world.
- o Increased Aid Flows to the Sahel. It is certain that financial coordination by the Club du Sahel gave Sahelian countries access to funding that would have been impossible otherwise. According to one expert, it is doubtful that the Sahel nations, acting separately and without CILSS/Club assistance, could

have increased total ODA by more than 20% between 1971-81. In 1971, ODA commitments to the Sahel stood at \$1.965 billion; in 1981, they passed the \$2 billion mark. In absolute terms, ODA grew at about 5.6%, from \$817 million in 1975, to \$1.97 billion in 1983. Although it fell until the height of the second drought, per capita aid remained consistently higher than the rest of Africa or Asia (in 1982, for example, per capita assistance to the Sahel was \$39, while in the rest of sub-Saharan Africa it was \$27 and in Asia \$5). The Club/CILSS framework was especially effective in attracting small or non-traditional donors without extensive resources for technical studies and project support. Introduction and active participation of Italy, Japan, Holland and Kuwait are often cited as accomplishments in this respect.

- o Improved Sector Planning. The Club/CILSS strategic development process gave donors more confidence that their money would be used well, which provided a justifiable basis for funding requests. The strategic approach also helped focus funding on priority sectors of agriculture and agroforestry; prior to Club studies, forestry was barely supported by donor funds. Club/CILSS-sponsored sector studies and strategy discussions have been credited with increasing attention among donors and recipients on major problems such as cereals policy, desertification, the environmental impact of the continuing fuelwood crisis, and the recurrent cost implications of development activities.

The A.I.D. Sahel Development Program has facilitated the Club/CILSS process, supporting the operations of both bodies with financial and technical assistance. It has provided members of sectoral teams, and funded critical studies on cereals policy, recurrent costs, environment and energy, that have provided the basis for dialogue and planning.

IV. A LOOK FORWARD: FUTURE DIRECTIONS

In a sense, the future began in December 1988, as A.I.D. hosted the third Donors' Advisory Group (DAG) meeting in Tucson, Arizona. In a desert setting much like parts of West Africa, the donor-Sahelian dialogue continued, confronting issues that will shape assistance efforts through the 1990s and into the next century. The agenda highlighted variations on dominant themes in the Futures Study, notably regional trade and regional markets, revised food aid policy, the role of the private sector and decentralized management of rural development. These topics reflect emphasis in A.I.D.'s future programs on:

- o promoting economic growth and private sector involvement;
- o improving agricultural and natural resource management; and
- o strengthening and decentralizing education and health/child survival/family planning systems.

A. Future Directions for A.I.D.

The future of A.I.D.'s Sahel program was shaped partly in FY 1988 by the new program for Africa launched by the President's End Hunger Initiative and the DFA. The dominant themes of the SDP are echoed in the DFA, reflecting the soundness of the SDP as a model for an African assistance effort in orientation as well as structure. However, the DFA will give the Sahel access to a larger funding pool and greater flexibility in combining project and non-project assistance to effect policy reform through development assistance.

Policy reform will remain a focal point of A.I.D. efforts in the Sahel, with continuing commitment to helping governments reduce their role in trade, pricing, marketing, input distribution and service delivery. Guidance provided by the May 1988 Africa Private Sector Development Policy and Strategy, focuses A.I.D. attention on policy reform, financial market development, privatization of economic and business functions, market growth and development. At the project level, training and credit for cooperatives will be expanded to strengthen the role of rural groups, as in the CLUSA effort in Mali's new DHV Project. New projects to support rural organizations and enterprise are planned for Niger and Mauritania.

1. Environmentally-Sustainable Agriculture

Continuing the emphasis on close integration of agriculture and ecology, efforts will focus on: management of natural resources; monitoring and reacting to environmental threats to food production; and research into agricultural systems.

Natural Resource Management

Ecology-related rural development activities will be guided by the Africa Bureau Sector Strategy for "Supporting Natural Resources Management in Sub-Saharan Africa" (revised 1987). The plan emphasizes an integrated approach that addresses the fundamental causes of environmental degradation: population growth, declining agricultural productivity, economic stagnation and poverty. It targets specific conservation measures aimed at increasing productivity and maintaining biological

diversity, which for the semi-arid tropics include tree planting and agroforestry, soil and water conservation and water resources management to reverse the impacts of desertification and stabilize the environment for agro-pastoral production. These are to be supported by policy dialogue to raise national awareness, training and applied research.

The four Sahelian countries in the Strategy's NRM Group I have had detailed assessments conducted as the basis for developing Country Action Programs. These will guide design of future activities in Mali, Senegal, Gambia and Niger. The other four countries are in NRM Group III, which are not expected to undertake assessments and will concentrate on institution-building through training and integration of natural resources into new and existing projects.

Drought and Pest Control

A.I.D. will continue to focus attention on tracking and analyzing the complex of agro-meteorological, social and ecological factors that create food crises, through the Famine Early Warning System Project. Private sector expertise is being contracted to complement A.I.D. technical assistance resources in this comprehensive effort to develop capability in drought-prone countries to collect, analyze and disseminate the data that will allow timely decisions by U.S. Government officials on famine prevention actions. In the process, host country early warning systems will be strengthened.

The Sahel will continue to figure prominently in pest control initiatives as long as crops are threatened by locust and grasshopper infestations. In response to the latest threat, A.I.D. Administrator Alan Woods established an interagency Desert Locust Task Force, which includes Africa Bureau representatives as well as staff of the Office of Foreign Disaster Assistance, Policy Planning Committee, and bureaus for Asia, S&T and External Affairs. A.I.D. will continue to contribute to multidonor pest control efforts, funding equipment and pesticides as well as technical assistance for environmental assessments and monitoring. The threat of a severe plague is expected to persist for another year or two, until the infestation is broken.

Agricultural Research

The 1985 Africa Bureau plan will continue to provide broad guidance in the priority area of research for increasing agricultural productivity in the Sahel, through:

- o development of national research systems in core countries, by training scientists, building institutional capacity and zonal networks focused on two to four crops per zone;
- o building of research networks, through support to regional institutions and international agricultural research centers based in Africa. The Sahel has been included in development of commodity networks for sorghum and millet, edible legumes, and forage in mixed farming systems; and
- o support to faculties of agriculture (staff training, facilities, curriculum development, research support).

Action in these areas will be realized through on-going components of agricultural projects and new research projects in Senegal, Niger and Burkina Faso.

2. Health and Family Planning

In 1987/88, the Africa Bureau developed a regional child survival and population strategies to guide sector activities. The new Population and Family Planning Strategy emphasizes demographic measurement, policy development, training, information, provision of quality family planning services and adequate supplies of a wide variety of contraceptives. These measures are aimed at effecting "policy-induced" fertility reduction. The PPPD project will provide major support for CERPOD research activities through FY 1992, as well as technical assistance for country-level program development.

The Africa Child Survival Strategy has set key targets for emphasis countries by 1995, which include:

- o reduction of the infant mortality rate to less than 75/1,000;
- o immunization of 80% of children under the age of five;
- o access to diarrheal disease treatment for children under five;
- o access to family planning information for up to 50% of couples;
- o reduction of the proportion of children under 80% weight to under 10%; and
- o anti-malarial treatment for at least 80% of children under five.

Mali and Niger are beginning projects with considerable child survival components. New child survival, family planning, and rural health projects include plans for financial and institutional sustainability, in a continuing emphasis on improving management capacity of host country health delivery agencies.

3. Education and Training

Efforts in the education sector will be guided by the 1988 A.I.D. Africa Bureau Basic Education Plan. Assistance can be expected to focus on policy reform issues:

- o decentralization of administration;
- o diversification of finance sources;
- o expansion of private sector involvement (i.e., non-public education); and
- o cost containment and redistribution of financial resources (eg: analysis of personnel costs and teacher deployment).

In countries where English is not the language of instruction, A.I.D. is not likely to become involved in curriculum reform in the formal system. Project activities will continue to focus on developing institutional capacity to manage development, through:

- o training of personnel;
- o building host country extension networks;
- o non-formal education, especially aimed at strengthening the private sector (cooperatives and small enterprise training); and
- o improved management of primary education.

4. Private Sector Growth

Private Sector Development Assessments are complete for most Sahelian countries enabling the Bureau to set up some common approaches to banking sector reform, management training and small enterprise (informal sector) development across the region. In addition to these separate interventions in the business sector, private sector growth enhancement is a leading objective of A.I.D. interventions in other sectors, especially agriculture (e.g., cooperative development, private input supply and output marketing, etc.).

5. Country Emphases

Burkina Faso

An assessment of "Prospects for Accelerated Economic Growth" was conducted in the spring of 1988 as a basis for future program recommendations. Findings pointed to a shift toward more private sector-oriented policies by the new government, and targeted selected areas for A.I.D. assistance: removing distributional constraints for coastal produce marketing; liberalizing input marketing; creating savings mobilization institutions and improving land tenure systems to increase cereals and produce output on cotton farms; investment in related processing and packaging industries. In the short term, efforts will focus on institutionalization of farming systems research, as the Agricultural Research and Training Support Project begins and Agricultural Human Resources Development continues through 1992. Introduction of cost-recovery systems will be emphasized in the health sector. At the same time, new forms of assistance will be explored.

Cape Verde

Watershed development and training activities will continue as primary emphases of the program. New efforts will be directed towards family planning and an Export Development Services Project that will provide assistance in developing foreign exchange-earning (export) capacity, helping the GOCV improve capability to develop markets, financial packages, service and small-scale industries.

Chad

The program is directed toward three goals: stimulating productivity and incomes in the agriculture sector, reducing maternal and child morbidity and mortality, and providing financial support to the GOC for continuation of recovery and development. These will be effected by continuing present activities aimed at strengthening long-term recovery efforts: support to Development Ministries (ESF) and to PVOs for agriculture, environmental protection and rural credit, as well as on-going funding for road maintenance. Child survival, family planning and training activities will receive increased support in the future as will expanded efforts in agricultural marketing and in food distribution.

The Gambia

The primary challenge will be to help the GOTG sustain the momentum of the Economic Reform Program by consolidating and building upon the policy changes to promote agricultural growth, increase rural incomes and attract investment. This is to be done through the Economic and Financial Policy Analyses Project, existing agriculture projects and a new multiyear P.L. 480 Title II Section 206 program to support additional policy reforms benefiting the rural poor, especially women farmers.

Mali

The CDSS for FY 90-94 targets three problems as priorities for future efforts: slow economic growth, hunger and malnutrition, mother and child health deficiencies. The first will be addressed by continued commitment of nearly 40% of A.I.D. Mission resources (mostly non-project assistance) to cereals market restructuring and economic reform; a new AEPRP will emphasize activities to further expand private sector participation in economic growth. The second will be tackled through policy reform complemented by a program to develop and disseminate appropriate technologies for rainfed crops and livestock. Efforts will focus on increased private sector delivery of goods and services in rural areas, and concomitant reduction of parastatal roles in the new DHV project. Health problems will be addressed through immunization, ORT, anti-malarial and nutritional campaigns, and a continuing lead role in demographic data collection and family planning. One new sector initiative is planned in education, and portfolio consolidation will continue.

Mauritania

The program focuses on the continuation of training and health programs. A new project using low cost technology in recessional agriculture will be started. Some assistance for private sector promotion will be realized through a Small Business Support project. Use of the the African Development Support project for technical assistance in private sector promotion. Use of food aid under the multiyear P.L. 480 Title II Section 206 program will be expanded to support new PVO initiatives.

Niger

The long-term strategy focuses on assistance to the GON in increasing food production and rural quality of life, primarily through improvements in the institutional policy climate. A new emphasis on economic reform will be effected through an AEPRP to encourage agro-pastoral exports, and on ecological reform through a 10-year Natural Resources Management Project planned for initial obligation in FY 1989. The project will replicate successful interventions of FLUP and other previous efforts. New targets for agricultural policy reform under a second ASDG include improved resource allocation, decreased public sector costs and increased privatization of agricultural enterprises; these will remain dominant themes over the next five years as will NRM related reforms. Private sector promotion will receive special attention under the Rural Organization Development project that will continue cooperative promotion and initiate an active credit union program.

Senegal

In the FY 1990 Action Plan, the goal of the program is to increase economic growth and food security through an orderly process of financial stabilization, structural reform, and activities in the key areas of agriculture, natural resources, health and family planning. Future efforts will focus on helping the GOS continue the economic reform process, giving greater attention to the banking sector and promotion of a dynamic market economy in a second AEPRP. Efforts to support agricultural policy reform will be strengthened through an Agricultural Sector Grant. Improvement of rural health delivery systems will continue, with special attention to assisting the GOS in defining and implementing a family planning strategy and a national child survival program. New efforts will focus on institutional reform in applied and adaptive research in forestry, water management, crop diversification and cereals production, with a Strengthening Agricultural Research Project. PVO activities will be expanded through a co-financing project to create income earning opportunities and the small scale enterprise efforts will also continue.

B. Future Directions for the CILSS and Club du Sahel

Reorganization of the CILSS and its specialized institutes will remain an important object of Club and donor support and scrutiny. Consolidation of planning, programming and budgeting systems and revision of personnel management procedures will receive special attention. The Futures Study will continue to influence setting of policy and task priorities, as reflected in the "Joint Work Program of the CILSS and Club du Sahel Secretariats for 1988-89." Plans for economic and social analyses focus on continued study of structural adjustment, population policies of individual CILSS countries, and assessments of industrial sector development and private sector microprojects.

The Mindelo Conference will continue to determine the direction of cereals policy reform efforts. Four interrelated studies will be completed and reviewed as a basis for future policy recommendations:

- o protected regional cereal markets (focused on rice);
- o cereals trade, border trade and food security in West Africa;
- o processing and promotion of local cereals; and
- o private cereals trade in CILSS countries.

Issues that will receive special attention are highlighted in the following sections.

1. Rural Development and Ecosystems

The Futures Study is the latest in a series of reports and seminars that conclude that the ecological imbalance in the Sahel is increasing: rangelands are seriously degraded, forests are vanishing, agricultural systems are stagnating. Yet until recently, Sahelian governments and donors have not given

adequate resources or attention to supporting the dynamics of the rural world (e.g., policies and legal frameworks to reverse unfavorable trends). To realize the "in-depth study" called for in the 1988/89 Work Plan, the Club and CILSS Secretariats are sponsoring a Conference on Ecology and Rural Development in May 1989. The Conference will focus on popular participation in rural development, soil and water conservation, and reform of agricultural systems.

At the Bern meeting in 1987, the Donors' Advisory Group emphasized that the needs of rural populations, as they perceive them, must be assessed before offering prescriptions for assistance. Thus the conference will bring together the usual combination of Sahelian authorities and donors with members of rural organizations, to jointly consider:

- o ecologically-appropriate production systems;
- o programs to stimulate rural self-development; and
- o technical, financial and institutional support necessary for implementation of such programs.

Representatives of rural organizations have been identified in Burkina Faso, Mali and Senegal, and a regional meeting to initiate an exchange of ideas was held in January 1989 in Mali. Preparation of basic documents is in progress, including case studies of successful sector projects, surveys of government policies on land tenure, credit, and training, a study of the role of women in anti-desertification efforts and an analysis of rural credit and financial regulations.

The recently completed, A.I.D.-funded "Opportunities for Sustained Development: Successful Natural Resources Management in the Sahel," will provide an important contribution to the conference. Drawn from the NRM assessments conducted in 1987/88, the study focuses on community-based projects in Mali, Niger, Senegal and the Gambia. Also valuable will be A.I.D.'s experience from the PVO projects in Chad and Senegal which have experimented with different funding mechanisms to support development of local initiatives and organizations.

2. Regional Integration

A spirit of unity flourished in the wake of the Great Drought, spawning the CILSS and a host of institutions to foster technical and economic cooperation in the Sahel. But as recurrent costs and national interests slowed the momentum of sub-regional union, diminishing effort was devoted to regional integration within West Africa as well. The economic development potential of the Sahel is dependent on that of the region, especially of the Coastal West African states. They provide channels for foreign exchange earning exports and transshipment of imports to landlocked Sahelian countries, as well as more healthy markets that are the key to trade expansion.

Proposals for a regionally-protected cereals market at Mindelo revived attention to the importance of intra-regional trade. This was reinforced by the Futures Study's call for the Sahel to overcome fears that trade relations will benefit the richer countries at its expense, and function as a part of the greater economic and geographic region of West Africa. The Club and CILSS Secretariats have sponsored studies on the dynamics of regional and border trade as a basis

for developing models for regional cooperation, and are proposing a future consultative group for West Africa. The meeting would bring donors and West African states together to analyze constraints and proposals for improving cooperation in trade promotion, infrastructure (transport and communication), agricultural research, financial markets, training and land tenure.

A.I.D. will continue to play a major role in this area through program-related efforts to improve market performance (e.g., the new AEPRP in Niger will attempt to index economic benefits of reduced border controls). In addition, the Agency has sponsored a study of regional organizations and the economic potential for further regional cooperation by Elliot Berg Associates, which will serve as a basis for Club/CILSS and DAG review and discussion.

3. Increasing Private Sector Involvement in Economic Development

As diminishing resources force Sahelian states to seek alternatives to public sector service delivery, attention to the role of the private sector in production and marketing has been increasing steadily. Most efforts still focus on industry, but banking, service and transport sectors are particular areas of interest for future privatization initiatives as are efforts to support the informal sector. The Futures Study emphasis on rural empowerment will help widen the scope of private involvement to include almost every aspect of resource management and regulation.

In the past year, the Club has begun to give greater attention to strategies for exploiting the dynamism of the private sector in the Sahel. It has sponsored an initial study of privatization initiatives in Niger, Burkina Faso and Senegal, which were reviewed at the Tucson, Arizona, DAG meeting; the discussion led to a call for a regional West Africa meeting to foster the economic benefits of increased private sector trade and investment between the Sahel and coastal states. Through planning assistance, A.I.D. will continue the lead role the United States has taken in overall promotion of private sector development and regional trade.

BIBLIOGRAPHICAL NOTE

The information for this report was culled from a wide range of written sources, but principally A.I.D. documents: Congressional Presentations, Country Development Strategy Statements and Action Plans, Annual Budget Submissions, Project Implementation Reports, Project Papers and evaluations, as well as briefing materials for multidonor conferences. Club du Sahel and CILSS documents also were consulted extensively. Citations are too numerous for facts and figures, and therefore not provided, but the following sources are of special note.

Chapter I Country Profiles is based primarily on Project Implementation Reports and the FY 1989 Congressional Presentation.

Chapters II and III are based largely on the reports cited above as well as:

Drought and Aid in the Sahel: A Decade of Development Cooperation; Carolyn Somerville (Westview Press, 1986).

Continuing the Commitment: Agricultural Development in the Sahel; OTA Special Report (Office of Technology Assessment, 1986).

The Club du Sahel: An Experiment in International Cooperation; Anne de Lattre and Arthur Fell (OECD, 1984).

APPENDIX I
ODA FLOWS TO THE SAHEL

Table 1

General Commitment Trend by OECD Donors, 1975-86
(current US\$ in millions)

Donors	Average 1975-79	1980	1981	1982	1983	1984	1985	1986
Australia	0.704	--	--	--	--	--	0.060	--
Austria	0.598	0.833	2.904	--	1.500	2.100	2.490	2.890
Belgium	14.406	21.591	24.161	15.887	14.700	9.900	22.600	17.600
Canada	73.779	10.730	69.727	38.820	94.300	164.500	32.650	39.050
Denmark	3.807	19.160	2.116	7.306	23.600	24.300	11.480	16.400
Finland	0.045	0.519	0.618	--	0.400	0.500	2.270	0.700
France	219.515	319.216	384.068	302.281	328.200	458.880	416.790	415.100
Ireland	0.149	0.029	--	--	--	--	0.030	--
Italy	0.999	0.710	2.550	--	120.100	41.600	123.650	388.300
Japan	18.403	38.747	26.590	25.270	36.600	40.500	49.840	61.000
The Netherlands	43.322	86.883	49.437	23.058	55.800	61.700	49.840	116.040
Norway	7.677	3.969	1.851	--	0.900	19.100	2.680	10.150
Sweden	5.254	16.384	2.962	8.365	8.200	9.500	15.500	16.590
Switzerland	10.637	11.967	38.556	22.661	21.700	14.200	30.020	37.310
United Kingdom	12.529	8.798	6.830	7.210	5.600	4.500	13.030	14.840
United States	96.916	130.111	143.322	144.360	190.200	314.600	244.830	179.380
West Germany	110.864	93.509	209.760	164.517	112.800	81.200	148.430	144.710
Total	619.604	763.156	965.452	759.735	1,015.000	1,247.080	1,142.110	1,460.000

Source:

Club du Sahel/CILSS, "Aid to CILSS Member Countries: The Financing Priority"; 12/88.
Table 12

Table 2

General Commitment Trend by Multi-Lateral Institutions and OPEC Countries, 1975-86
(current US\$ in millions)

Donors	Average 1975-79	1980	1981	1982	1983	1984	1985	1986
IDA (a)	98.040	122.000	166.300	93.200	138.000	92.000	204.000	385.400
EDF (b)	153.024	180.063	239.224	202.474	133.000	175.200	117.120	162.020
ADF (c)	38.559	34.326	58.641	73.713	51.200	76.800	76.460	103.000
IFAD (d)	8.725	22.400	19.702	10.986	12.900	4.700	3.900	10.800
CTDA (e)	1.296	2.025	--	--	--	--	--	--
WADB (f)		5.814						
IMF Trust Fund		22.445						
United Nations	52.377	101.227	97.790	72.020	139.900	161.100	220.200	183.200
Sub-Total	352.021	490.300	581.657	452.393	475.000	509.800	621.680	844.420
OPEC countries & institutions	223.013	248.243	425.713	301.831	264.400	412.540	125.560	64.700
Total	575.034	738.543	1,007.370	754.224	739.400	922.340	747.240	909.120

(a) International Development Association/World Bank

(b) European Development Fund of the European Economic Community

(c) African Development Fund

(d) International Fund for Agricultural Development

(e) Cultural and Technical Development Agency (includes \$205,000 Special Program, 1975-79)

(f) West African Development Bank

Source: Club du Sahel/CILSS, "Aid to CILSS Member Countries: The Financing Priority"; 12/88.
Tables 13 and 14

Table 3

Top 10 Donors to the CILSS Countries
Total ODA Commitments, 1975-86

	millions \$US *	% of total aid
- France	3,736	20
- EDF	2,009	10
- United States	1,844	9
- World Bank/IDA	1,743	9
- West Germany	1,513	8
- United Nations	1,231	6
- Saudi Arabia	1,200	6
- Canada	820	4
- Netherlands	690	3
- African Development Fund	684	3
Total, Top Ten Donors	15,470	78
Total Commitments, 1975-86	19,741	

Source: Club du Sahel/CILSS, "Aid to CILSS Member Countries, The Financing Priority," Table 11

*Figures include Guinea-Bissau

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Table 4

General Trends in ODA Commitments to CILSS Member Countries, 1975-86
(current US\$ in millions)

	Cape Verde	Chad	Gambia	Guinea-Bissau	Mali	Mauritania	Niger	Sénégal	Burkina Faso	Régional	TOTAL GENERAL
Average 1975-79	40.700	104.951	37.692	65.300	188.558	201.259	158.521	209.406	162.412	87.383	1,385.884
1980	76.339	35.682	98.519	68.800	208.586	274.694	208.917	287.664	250.473	60.825	1,501.767
1981	60.428	69.237	64.052	63.400	248.225	188.841	272.247	354.622	326.014	389.154	2,036.223
1982	36.870	82.868	46.049	62.400	182.172	144.178	192.244	268.750	218.160	342.668	1,576.359
1983	97.000	109.800	66.400	122.600	302.000	163.100	256.100	431.200	252.700	76.100	1,877.000
1984	94.100	143.900	84.000	76.200	410.700	190.000	345.600	446.530	246.700	207.880	2,245.610
1985	61.970	210.550	33.280	62.600	449.140	231.830	271.110	316.760	249.990	1.850	1,889.150
1986	89.100	256.910	118.610	63.090	351.630	180.760	442.830	639.480	253.790	---	2,396.210
TOTAL 1975-86	719.310	1,428.700	666.100		2,646.100	2,147.870	2,510.540	3,475.260	2,359.900	1,513.544	19,760.470
1977-86				714.090							

Source: Club du Sahel/CILSS, "Aid to CILSS Member Countries, The Financing Priority," Table 16

Table 5

Breakdown per Source of Financing
of Net ODA Disbursements to the CILSS Member Countries
1975-86 (current US\$ millions)

	Average 1975 1979	1980	1981	1982	1983	1984	1985	1986
Total Bilateral DAC	441.5	732.7	823.1	753	767	923.3	1069	1254
France	200	291	349	258	236	352	345	396
W. Germany	71	115	129	141	108	85	98	125
United States	62	127	138	127	138	195	281	178
								227
Total multilateral	297	368	394	363	342	381	513	742
EDF	151	117	163	125	85	107	114	182
IDA	56	70	66	66	77	78	124	268
UN	59	72	99	98	130	151	206	184
Total OPEC	138	143	215	242	189	115	151	158
Total	877	1287	1504	1385	1331	1499	1750	2165

Source: Club du Sahel/CILSS, "Aid to CILSS Member Countries,
The Financing Priority," Table 19

Table 6

Sectoral Distribution of ODA Commitments for Projects (1975-86)
(current US\$ in millions)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Rural Development	183	337	282	338	362	379	724	607	314	348	271	381
Village Hydraulics				12	15	14	42	46	164	246	75	39
Wells	47	30	19	35	47	32	24			18	45	25
Transport & Infrastr.	82	226	137	178	246	179	201	130	228	212	129	178
Communications	40	10	12	21	34	29	36	70	12	27	10	72
Energy	5	34	14	60	20	20	86	38	113	63	30	39
Health	39	22	34	39	52	29	40	55	45	40	28	64
Education & Training	45	37	56	91	129	70	58	64	28	58	30	41
Industry	21	3	27	25	19	40	58	14	47	26	18	20
Mining	6	4	22	14	198	36	7	9	24	12	17	
Tourism		6	8		1		4	2				3
Total Commitments	817	1136	1002	1378	1622	1502	1970	1514	1654	2058	1889	2396

Source: Club du Sahel/CILSS, "Aid to CILSS Member Countries, The Financing Priority," Table 28

Table 7
A.I.D. SDP* and ESF Obligations by Country, 1978-88
(\$ millions)

Country	FY78	FY79	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88	Total
<u>Burkina Faso</u>												
SDP	2.5	8.4	9.2	14.1	11.2	.3	.04	2.8	6.8	1.6	1.9	58.8
ESF												—
<u>Cape Verde</u>												
SDP	.7	2.5	3.1	3.1	3.5	2.2	2.0	2.0	2.6	1.0	2.5	25.2
ESF												—
<u>Chad</u>												
SDP	7.7	2.5	.2	—	—	2.0	3.5	9.0	4.0	4.0	6.0	38.9
ESF							3.0	5.0	9.5	5.0	10.0	32.5
<u>Gambia</u>												
SDP	.9	4.2	4.7	5.6	1.2	3.9	3.7	4.6	4.0	2.5	3.8	39.1
ESF										6.0		6.0
<u>Mali</u>												
SDP	6.4	16.1	15.5	14.5	9.6	9.9	11.2	10.5	9.0	7.3	19.5	129.5
ESF								18.0				18.0
<u>Mauritania</u>												
SDP	4.5	6.1	2.7	8.5	6.3	5.1	3.4	9.4	3.0	1.8	3.0	53.8
ESF												—
<u>Niger</u>												
SDP	5.5	9.5	9.5	13.7	13.0	16.0	19.6	20.0	16.0	19.5	33.7	176.0
ESF							5.0	5.0	4.4	2.0		16.4
<u>Senegal</u>												
SDP	5.3	10.7	10.0	14.8	16.2	14.1	22.9	22.1	19.4	17.8	23.5	176.8
ESF						10.0	10.0	15.0	27.5	12.0		74.5
<u>Sahel Regional</u>												
SDP	16.4	15.3	21.6	21.4	32.9	31.6	40.3	22.9	20.4	24.5	7.1	254.4
ESF									.6			.6
Total SDP	49.9	75.3	76.5	95.7	93.9	85.0	106.6	103.3	85.2	80.0	101.0	952.4
Total ESF						10.0	18.0	43.0	42.0	25.0	10.0	148.0
Grand Total	49.9	75.3	76.5	95.7	93.9	95.0	124.6	146.3	127.2	105.0	111.0	1,100.4

*SDP funds include reprogrammed prior-year funds; FY88 funds are DFA.

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Table 8
U.S. Emergency Food Aid to the Sahel
1973-75, 1983-85

	<u>FY 1973-75 BUDGET</u>				<u>FY 1983-85 BUDGET</u>							
	<u>MT</u>				<u>1984</u>		<u>1985</u>		<u>1986</u>		<u>Total</u>	
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>Total</u>	<u>MT</u>	<u>\$000</u>	<u>MT</u>	<u>\$000</u>	<u>MT</u>	<u>\$000</u>	<u>MT</u>	<u>\$000</u>
Burkina Faso	25,000	37,080	5,079	67,159	23,277	9,343.3	46,876 ^b	19,576.0	400	535.8	70,553	29,475.1
Cape Verde	..	..	..	2,000	2,000	1,048.1	730	595.0	2,000	1,015.0	4,730	2,678.1
Chad	5,000	25,500	349	30,849	12,200	5,446.3	61,819	38,434.7	3,000	1,487.1	77,099	45,368.1
The Gambia	..	5,000	2,472	7,472	8,150	3,076.4	6,245	2,456.6	..	..	14,395	5,533.0
Mali	35,000	87,896	45,178	168,074	24,860	4,671.9	66,939 ^c	32,415.7	34,872	11,782.6	126,671	48,870.2
Mauritania	15,000	52,253	4,334	71,587	17,500	7,333.8	25,443	23,050.6	5,000	6,107.1	48,043	36,511.5
Niger	46,000	112,114	28,329	186,443	..	..	140,783	66,392.4	18,149	8,871.8	158,932	75,264.2
Senegal	30,000	25,192	4,359	59,551	61,551	13,269.5	14,931	4,051.1	160	123.2	76,642	174,438.0
Total	154,000	345,000	90,100	541,135	149,538	844,249.3	343,786	8186,972.1	63,761	829,922.6	577,065	8261,144.0

Notes:

^aEmergency food aid (including Section 416) only.

^bPlus 5,000 MT barter with Ghana.

^cPlus 10,000 MT barter with Ghana.

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APPENDIX II
SOCIAL AND ECONOMIC INDICATORS

- Figure 1: Average Growth Rates, Population, Ag. Production, Per Capita GNP, 1980-85
- Figure 2: Life Expectancy, 1970-73 and 1983 Compared
- Figure 3: Literacy Rates, 1970-73 and 1983 Compared
- Figure 4: Infant Mortality Rates, 1970-73 and 1983 Compared

Figure 1

AVERAGE GROWTH RATES OF SAHEL
POPULATION, AG PRODUCTION, PER CAPITA GNP

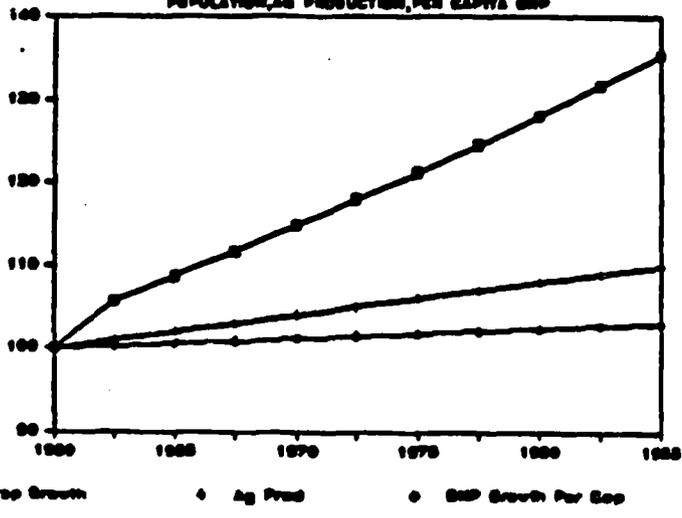


Figure 2

Life Expectancy

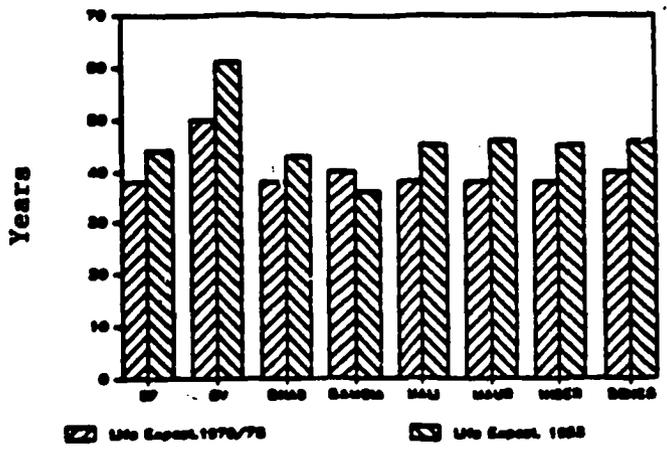


Figure 3

Literacy Rates

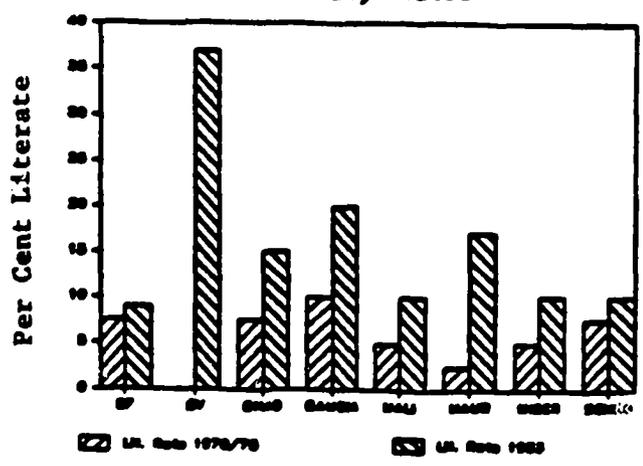
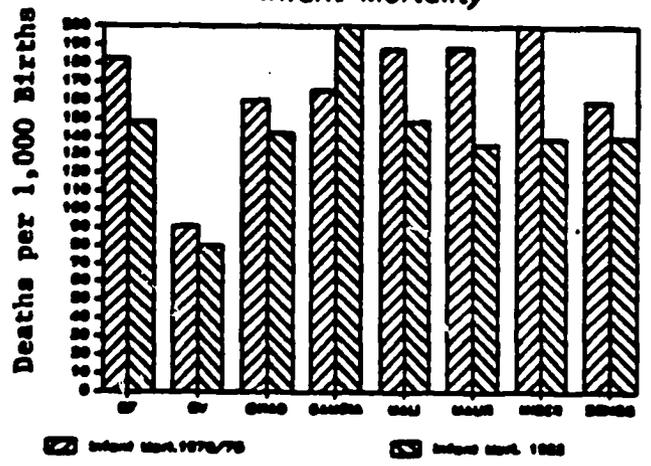


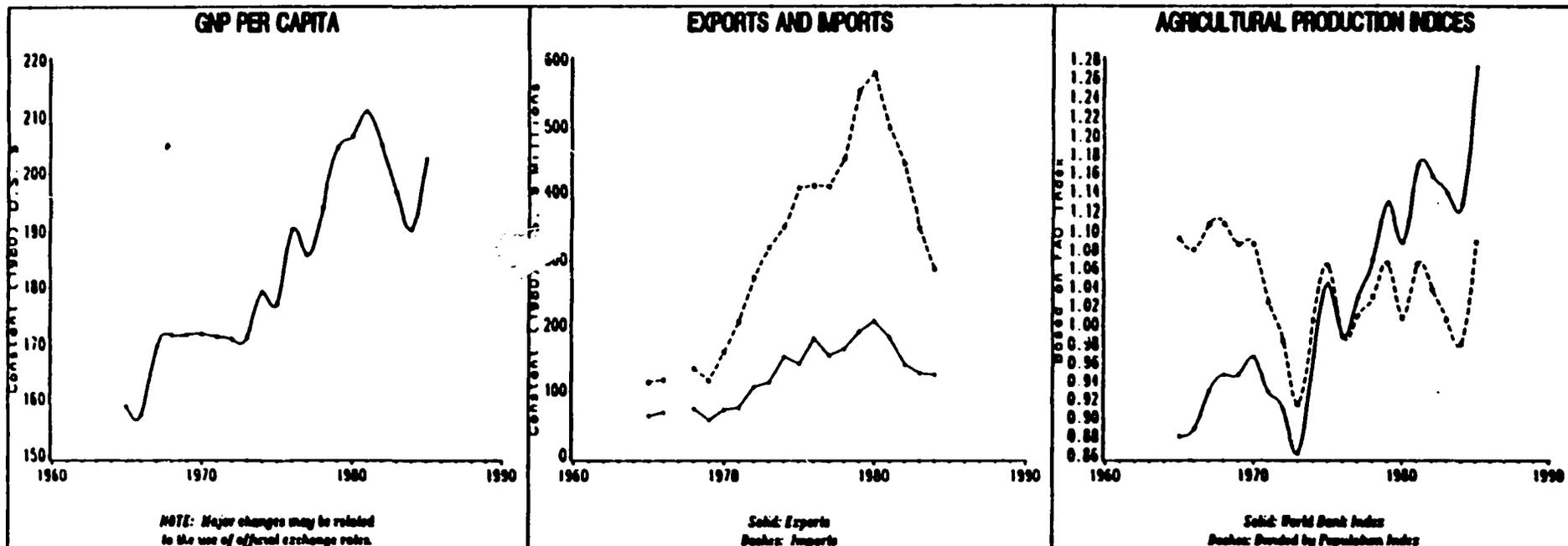
Figure 4

Infant Mortality



BURKINA FASO -- Economic Indicators

Total U.S. Aid \$ 261 Million (1961-86)
 Ratio of U.S. Aid To Total ODA 7.0% (1982-85)
 Yearly U.S. Aid Per Capita \$ 2.39 (1982-85)



NOTE: Major changes may be related to the use of official exchange rates.

*Solid: Exports
Dashed: Imports*

*Solid: World Bank Index
Dashed: Divided by Population Index*

NATIONAL INCOME AND EXPENDITURES

Per Capita GNP	(1985)	150
Average Annual Real Per Capita GNP Growth Rate (1965-85)		1.3%
Government Budgetary Expenditures as a % of GNP	()	%
Total Expenditures and Net Lending (\$ Millions, US):		
(1982)	185	(1983) 145 (1984) 153
Budgetary Deficit or Surplus (\$ Millions, US):		
(1982)	-19	(1983) 9 (1984) -9

EXTERNAL TRADE (IN 1980 CONSTANT \$US)

Trade Balance (\$ Millions, US) (1982)	-303(83)	-221(84)	-161
Total Imports (\$ Millions, US) (1982)	444(83)	350(84)	287
Of Which % From U.S.		(1983)	10%
Major Imports (1985) TEXTILES; FOOD; CONSUMER GOODS			
Total Exports (\$ Millions, US) (1982)	142(83)	128(84)	125
Of Which % to U.S.		(1983)	0%
Major Exports (1985) LIVESTOCK; PEANUTS; SHEA NUT PRODS.			
Trading Partners: FRANCE; COTE D'IVOIRE; UNITED STATES			

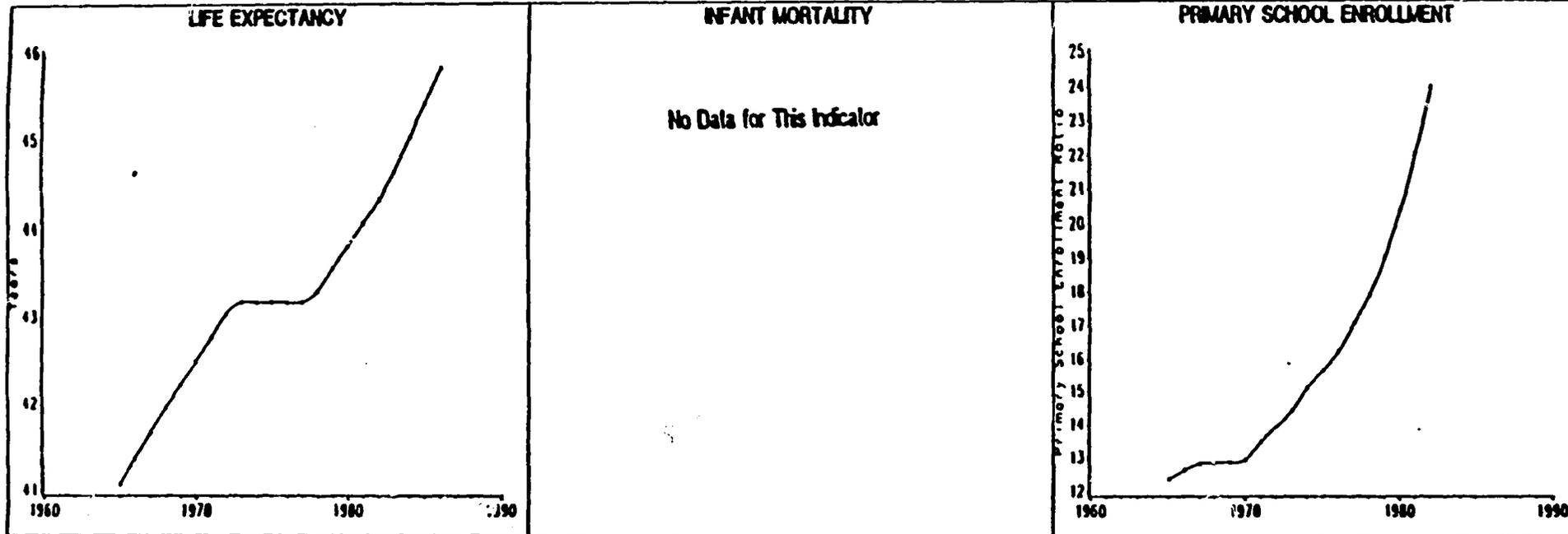
INTERNATIONAL RESERVES AND EXTERNAL DEBT

Official International Reserves Equivalent to 2 4 Months of Imports (1983)	
External Public Debt as % of GNP (1985)	46.4%
Service Payments on External Public Debt (\$ Millions, US) (1985)	10
As % of Total Export Earnings (1984)	10.1%

AGRICULTURE

Agricultural Production as % of GDP (1985)	40%
Major Crop(s)	As % of Arable Land
Subsistence: SORGHUM; MILLET; CORN	84% (1986)
Cash: COTTON; PEANUTS;	11% (1986)
Ag. Exports: (1986) COTTON; LIVESTOCK; SHEA NUTS	
Ag. Imports: (1986) WHEAT; RICE; DAIRY PRODUCTS	

BURKINA FASO -- Social Indicators



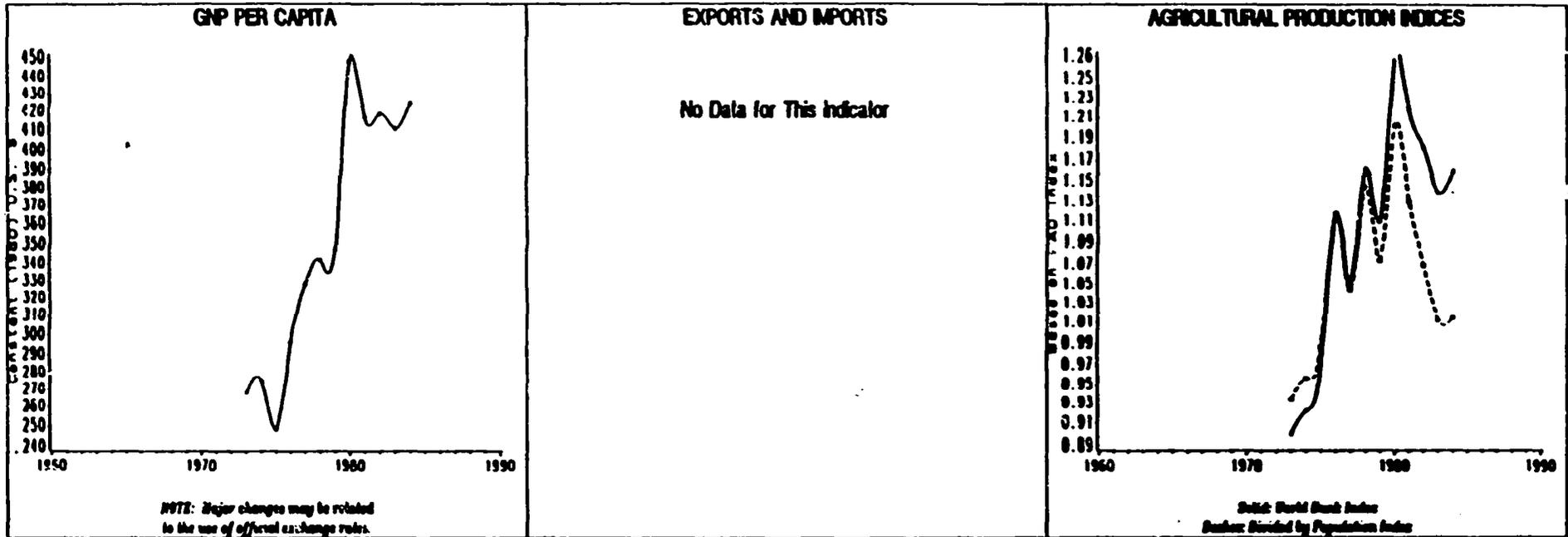
POPULATION	
Total Population... (Thousands, Mid 1987)	8,276
Population Growth Rate... (1970) 1.4% (1978) 1.9% (1987) 2.4%	
Population (1987) By Age Group:	
(0-14yrs) 45.3% (15-64yrs) 51.7% (65+ yrs) 3.0%	
Married Women Aged 15-49 yrs. Using Contraception... (1977)	1.0%
Total Fertility Rate... (1970) 6.4 (1987) 6.5	
HOUSEHOLD INCOME AND EMPLOYMENT	
National Income Received by Low 20% of Population.. ()	%
% of Population Living Below Absolute Poverty Level	
() Total % Urban % Rural %	
Labor Force Participation as % of Working Age Population	() %
Proportion of Labor Force in Agriculture... (1980)	87%

NUTRITION AND HEALTH	
Per Capita Calorie Supply as a % of Requirements... (1983)	85%
Life Expectancy at Birth, in Years	
(1986) Total 45.8 Male 44.7 Female 47.1	
(1970) Total 42.5 Male 41.8 Female 43.2	
Infant Deaths in First Yr of Life per 1000 Live Births (1987)	152
% of Children 12-23 Months Old Fully Immunized Against	
Tuberculosis (BCG) 16% (1981)	Measles 23% (1981)
Diphtheria (DPT) 2% (1981)	Polio (3) 2% (1981)
Population with Reasonable Access to Safe Water Supply	(1980) 30%
EDUCATION AND LITERACY	
Total School Enrollment as Ratio of Population in Age Group:	
Primary (1984) Total 29.0 Male 37.0 Female 22.0	
Secondary (1984) Total 4.0 Male 6.0 Female 3.0	
Post Secondary (1984) Total 1.0 Male . Female .	
Adult Literacy Rate () Total % Male % Female %	

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CAPE VERDE -- Economic Indicators

Total U.S. Aid \$ 74 Million (1975-86)
 Ratio of U.S. Aid To Total ODA 7.1% (1982-85)
 Yearly U.S. Aid Per Capita \$ 17.65 (1982-85)



NATIONAL INCOME AND EXPENDITURES	
Per Capita GNP (1985)	430
Average Annual Real Per Capita GNP Growth Rate (1965-)	%
Government Budgetary Expenditures as a % of GNP ()	%
Total Expenditures and Net Lending (\$ Millions, US):	() () ()
Budgetary Deficit or Surplus (\$ Millions, US):	() () ()

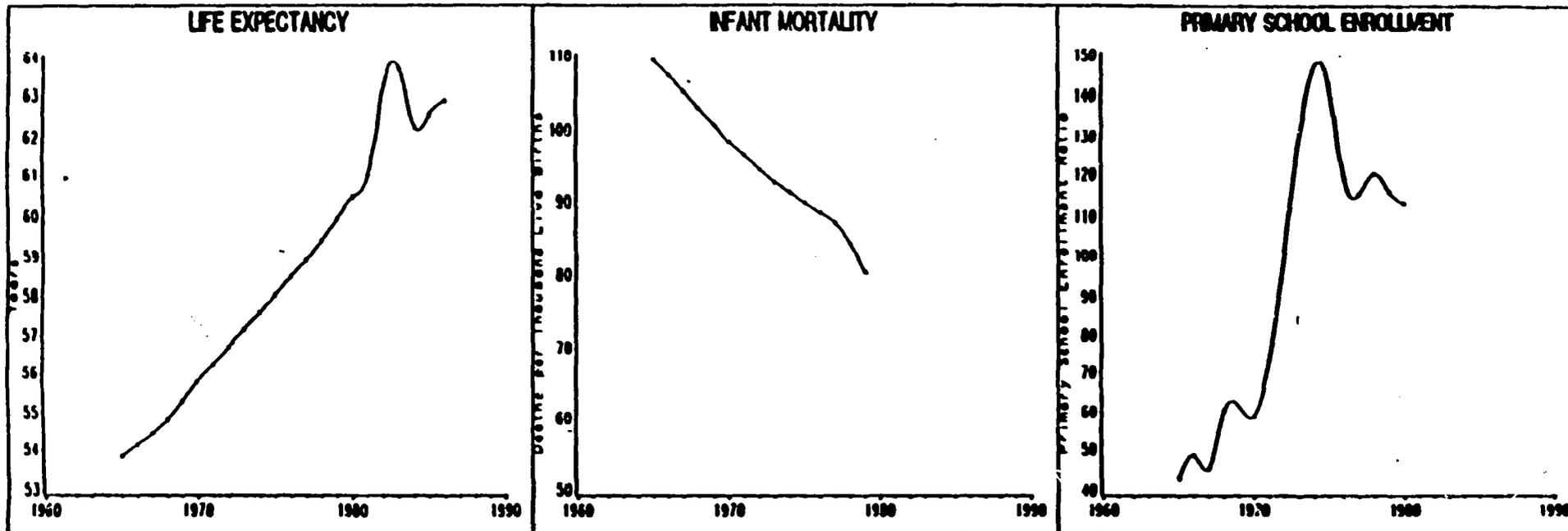
INTERNATIONAL RESERVES AND EXTERNAL DEBT	
Official International Reserves Equivalent to Months of Imports ()	
External Public Debt as % of GNP... (1985)	95.0%
Service Payments on External Public Debt, (\$ Millions, US) (1985)	5
As % of Total Export Earnings ()	%

EXTERNAL TRADE (IN 1980 CONSTANT \$US)	
Trade Balance (\$ Millions, US) ()	() ()
Total Imports (\$ Millions, US) ()	() ()
Of Which % From U.S. ()	() %
Major Imports (1985) PETROLEUM PRODS; CORN; RICE	
Total Exports (\$ Millions, US) ()	() ()
Of Which % to U.S. ()	() %
Major Exports (1985) FISH; BANANAS; SALT	
Trading Partners: PORTUGAL; NETHERLANDS; FRANCE	

AGRICULTURE	
Agricultural Production as % of GDP... (1984)	23%
Major Crop(s) As % of Arable Land	
Subsistence: CORN; ..	30% (1986)
Cash: BANANAS; ..	25% (1986)
Ag. Exports: (1986) BANANAS; ..	
Ag. Imports: (1986) CORN; WHEAT; RICE	

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CAPE VERDE -- Social Indicators



POPULATION

Total Population... (Thousands, Mid 1987) 344
 Population Growth Rate... (1970) 2.7% (1978) 1.1% (1987) 2.6%
 Population (1987) By Age Group:
 (0-14yrs) 45.7% (15-64yrs) 49.6% (65+ yrs) 4.6%
 Married Women Aged 15-49 yrs. Using Contraception... () %
 Total Fertility Rate... (1970) 7.0 (1987) 6.7

HOUSEHOLD INCOME AND EMPLOYMENT

National Income Received by Low 20% of Population.. () %
 % of Population Living Below Absolute Poverty Level
 () Total % Urban % Rural %
 Labor Force Participation as % of Working Age Population
 () %
 Proportion of Labor Force in Agriculture... () %

NUTRITION AND HEALTH

Per Capita Calorie Supply as a % of Requirements... (1983) 111%
 Life Expectancy at Birth, in Years
 (1986) Total 62.9 Male 61.3 Female 64.6
 (1970) Total 55.8 Male 54.3 Female 57.4
 Infant Deaths in First Yr of Life per 1000 Live Births (1987) 70
 % of Children 12-23 Months Old Fully Immunized Against
 Tuberculosis (BCG3) % () Measles % ()
 Diphtheria (DPT) 23% (1983) Polio (3) % ()
 Population with Reasonable Access to Safe Water Supply
 (1980) 50%

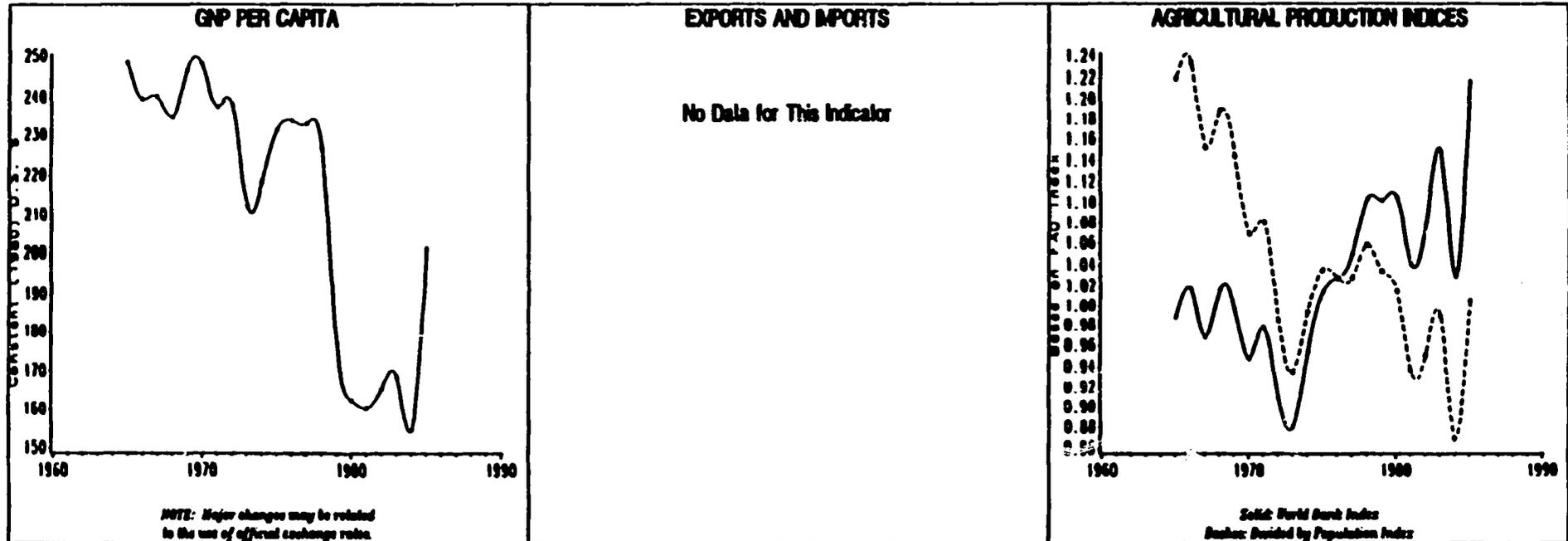
EDUCATION AND LITERACY

Total School Enrollment as Ratio of Population in Age Group:
 Primary (1980) Total 113.5 Male 117.2 Female 124.0
 Secondary (1978) Total Male Female 13.2
 Post Secondary () Total Male Female
 Adult Literacy Rate () Total % Male % Female %

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CHAD -- Economic Indicators

Total U.S. Aid \$ 155 Million (1961-86)
 Ratio of U.S. Aid To Total ODA 11.8% (1982-85)
 Yearly U.S. Aid Per Capita \$ 3.57 (1982-85)



NATIONAL INCOME AND EXPENDITURES

Per Capita GNP	()
Average Annual Real Per Capita GNP Growth Rate (1965-85)	-2.3%
Government Budgetary Expenditures as a % of GNP... (1986)	8.8%
Total Expenditures and Net Lending (\$ Millions, US):	
(1984) 55 (1985) 56 (1986)	71
Budgetary Deficit or Surplus (\$ Millions, US):	
(1984) -13 (1985) -9 (1986)	-22

INTERNATIONAL RESERVES AND EXTERNAL DEBT

Official International Reserves Equivalent to 1.9 Months of Imports (1985)	
External Public Debt as % of GNP... (1985)	23.0%
Service Payments on External Public Debt. (\$ Millions, US)	(1985) 8
As % of Total Export Earnings	%

EXTERNAL TRADE (IN 1980 CONSTANT \$US)

Trade Balance (\$ Millions, US) (1984)	16(85)	-73(86)	-118
Total Imports (\$ Millions, US) (1984)	116(85)	159(86)	214
Of which % From U.S.	(1985)	17%	
Major Imports (1985) CEMENT; PETROLEUM PRODS; FLOUR			
Total Exports (\$ Millions, US) (1984)	131(85)	86(86)	96
Of which % to U.S.	(1985)	1%	

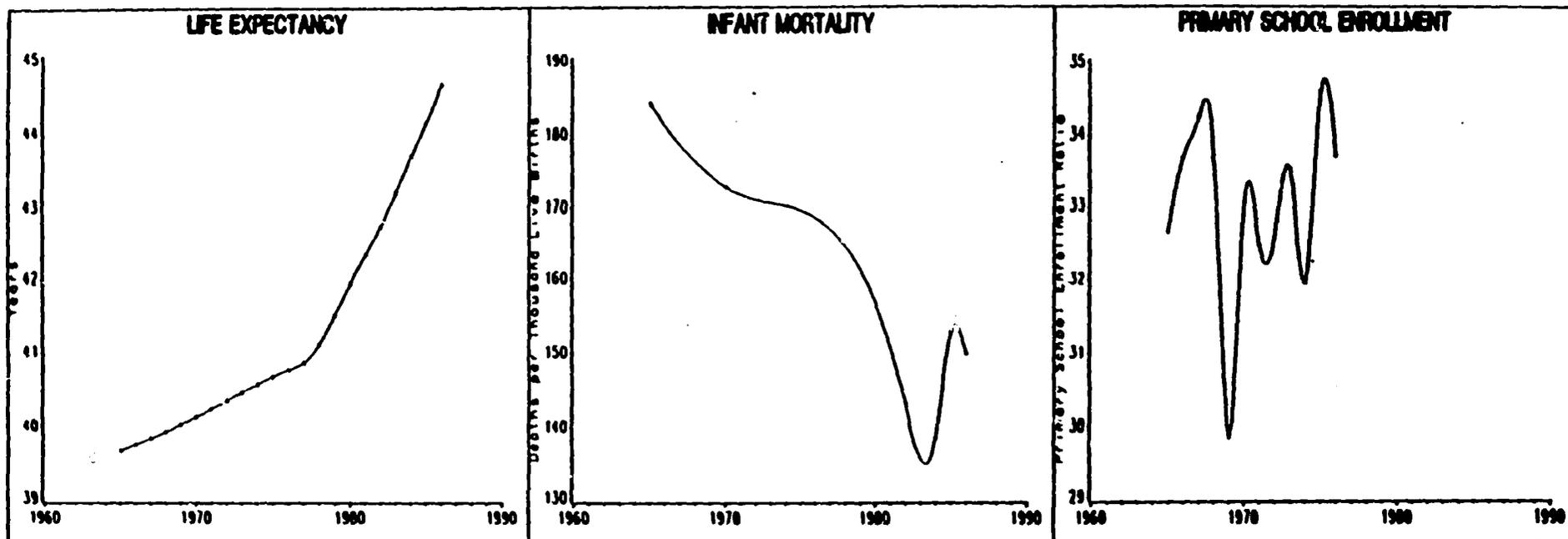
Major Exports (1985) COTTON; LIVESTOCK; FISH
 Trading Partners: FRANCE; CAMEROON; UNITED STATES

AGRICULTURE

Agricultural Production as % of GDP... (1981)	47%
Major Crop(s)	As % of Arable Land
Subsistence: MILLET; SORGHUM; PEANUTS IN SHELL	40% (1986)
Cash: COTTON; ..	6% (1986)
Ag. Exports: (1986) COTTON; ..	
Ag. Imports: (1986) WHEAT; RAW SUGAR; ..	

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CHAD -- Social Indicators



POPULATION

Total Population... (Thousands, Mid 1987) 4,646
 Population Growth Rate... (1970) 1.5% (1978) 1.7% (1987) 2.4%
 Population (1987) By Age Group:
 (0-14yrs) 43.7% (15-64yrs) 54.6% (65+ yrs) 1.7%
 Married Women Aged 15-49 yrs. Using Contraception... (1977) 1.0%
 Total Fertility Rate... (1970) 5.3 (1987) 5.3

HOUSEHOLD INCOME AND EMPLOYMENT

National Income Received by Low 20% of Population... () %
 % of Population Living Below Absolute Poverty Level
 (1978) Total % Urban 30.0% Rural 56.0%
 Labor Force Participation as % of Working Age Population
 () %
 Proportion of Labor Force in Agriculture... () %

NUTRITION AND HEALTH

Per Capita Calorie Supply as a % of Requirements... (1982) 68%
 Life Expectancy at Birth, in Years
 (1986) Total 44.6 Male 43.4 Female 46.0
 (1970) Total 40.1 Male 39.0 Female 41.3
 Infant Deaths in First Yr of Life per 1000 Live Births (1987) 143
 % of Children 12-23 Months Old Fully Immunized Against
 Tuberculosis (BCG) % (1983) Measles %
 Diphtheria (DPT) % (1983) Polio (3) %
 Population with Reasonable Access to Safe Water Supply
 (1980) 30%

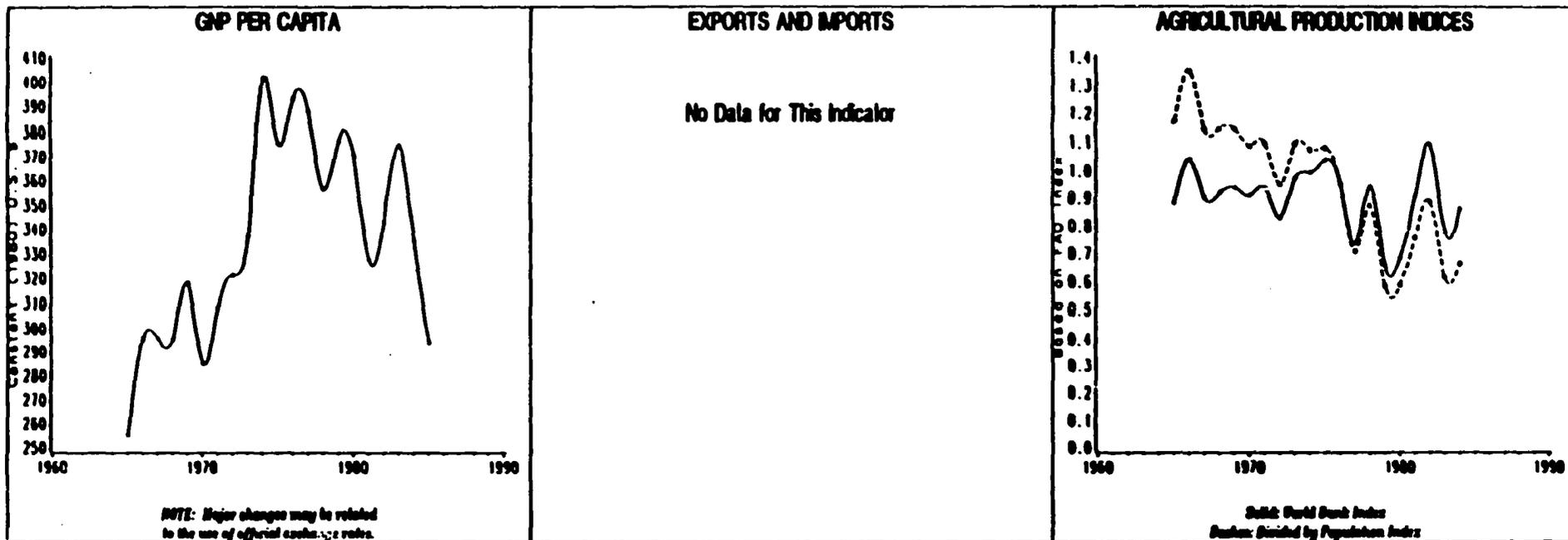
EDUCATION AND LITERACY

Total School Enrollment as Ratio of Population in Age Group:
 Primary { } Total : Male : Female :
 Secondary { } Total : Male : Female :
 Post Secondary { } Total : Male : Female :
 Adult Literacy Rate () Total % Male % Female %

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GAMBIA, THE -- Economic Indicators

Total U.S. Aid \$ 69 Million (1956-86)
 Ratio of U.S. Aid To Total ODA 11.0% (1982-85)
 Yearly U.S. Aid Per Capita \$ 9.11 (1982-85)



NATIONAL INCOME AND EXPENDITURES

Per Capita GNP	(1985)	230
Average Annual Real Per Capita GNP Growth Rate	(1965-85)	1.1%
Government Budgetary Expenditures as a % of GNP	()	%
Total Expenditures and Net Lending (\$ Millions, US):		
(1982)	74 (1983)	73 (1984)
Budgetary Deficit or Surplus (\$ Millions, US):		
(1982)	-15 (1983)	-23 (1984)

INTERNATIONAL RESERVES AND EXTERNAL DEBT

Official International Reserves Equivalent to 0 3 Months of Imports	(1983)	
External Public Debt as % of GNP	(1985)	115%
Service Payments on External Public Debt, (\$ Millions, US)	(1985)	8
As % of Total Export Earnings	(1985)	49.0%

EXTERNAL TRADE (IN 1980 CONSTANT US\$)

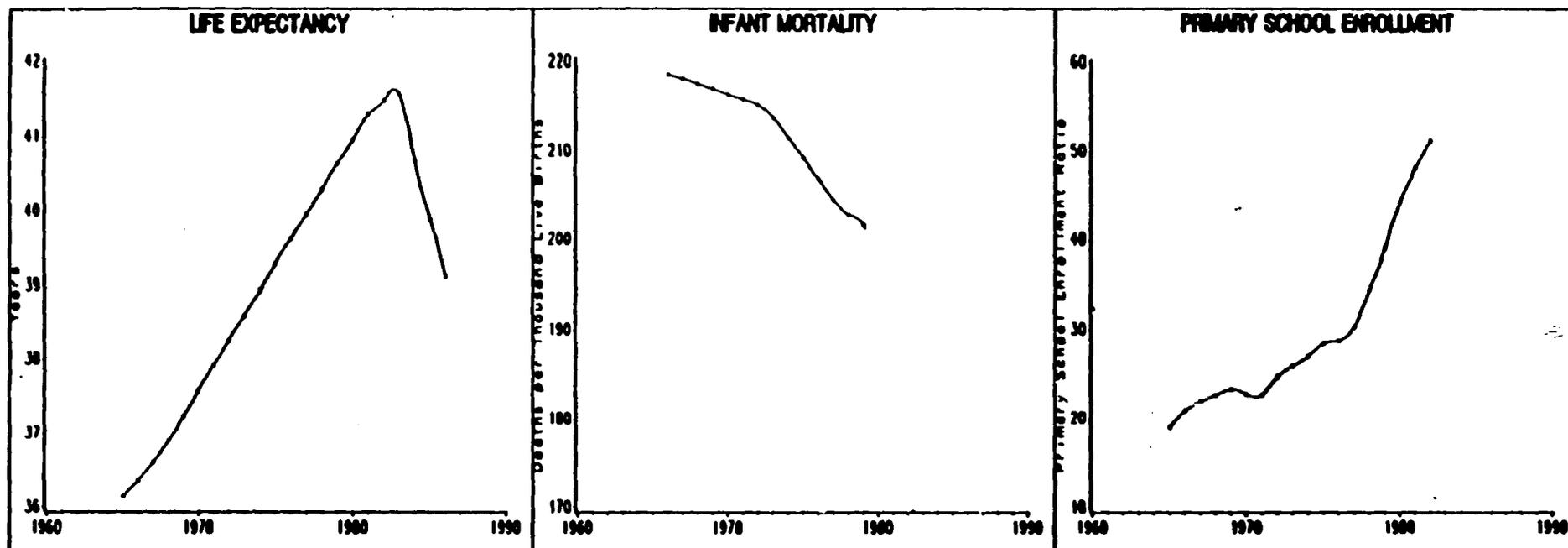
Trade Balance (\$ Millions, US)	()	()	()
Total Imports (\$ Millions, US)	()	()	()
Of Which % From U.S.	(1983)	8%	
Major Imports (1985)	TEXTILES; FOODSTUFFS; TOBACCO		
Total Exports (\$ Millions, US)	()	()	()
Of Which % to U.S.	(1983)	0%	
Major Exports (1985)	PEANUTS; FISH; PALM KERNELS		
Trading Partners:	UNITED KINGDOM; FRANCE; CHINA		

AGRICULTURE

Agricultural Production as % of GDP	(1982)	27%
Major Crop(s)		As % of Arable Land
Subsistence:	MILLET; SORGHUM; RICE	25% (1986)
Cash:	PEANUTS; . . .	50% (1986)
Ag. Exports:	(1986) PEANUTS; . . .	
Ag. Imports:	(1986) RICE; WHEAT; RAW SUGAR	

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GAMBIA, THE -- Social Indicators



POPULATION

Total Population... (Thousands, Mid 1987) 760
 Population Growth Rate... (1970) 2.5% (1978) 2.4% (1987) 2.4%
 Population (1987) By Age Group:
 (0-14yrs) 45.7% (15-64yrs) 51.1% (65+ yrs) 3.2%
 Married Women Aged 15-49 yrs. Using Contraception... (1977) 1.0%
 Total Fertility Rate... (1970) 6.4 (1987) 6.4

HOUSEHOLD INCOME AND EMPLOYMENT

Proportional Income Received by Low 20% of Population... () %
 % of Population Living Below Absolute Poverty Level
 (1977) Total % Urban % Rural 40.0%
 Labor Force Participation as % of Working Age Population
 () %
 Proportion of Labor Force in Agriculture... (1984) 70%

NUTRITION AND HEALTH

Per Capita Calorie Supply as a % of Requirements... (1983) 86%
 Life Expectancy at Birth, in Years
 (1986) Total 39.1 Male 38.4 Female 39.9
 (1970) Total 37.6 Male 36.9 Female 38.3
 Infant Deaths in First Yr of Life per 1000 Live Births (1987) 177
 % of Children 12-23 Months Old Fully Immunized Against
 Tuberculosis (BCG) 94% (1985) Measles 85% (1985)
 Diphtheria (DPT) 78% (1985) Polio (3) 56% (1985)
 Population with Reasonable Access to Safe Water Supply
 () %

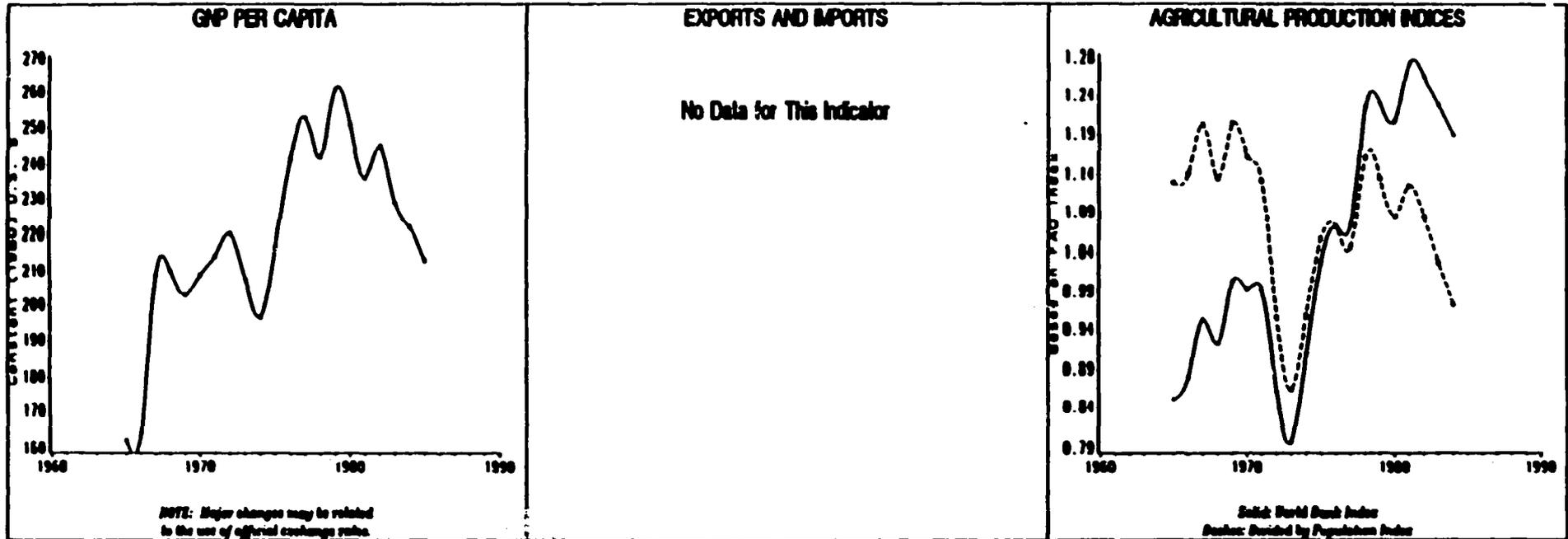
EDUCATION AND LITERACY

Total School Enrollment as Ratio of Population in Age Group:
 Primary (1982) Total 51.2 Male 64.9 Female 37.3
 Secondary (1982) Total 14.4 Male 16.7 Female 6.8
 Post Secondary (1980) Total 0.5 Male 0.8 Female 0.2
 Adult Literacy Rate (1980) Total 20% Male 29% Female 12%

db

MALI -- Economic Indicators

Total U.S. Aid \$ 293 Million (1961-86)
 Ratio of U.S. Aid To Total ODA 2.2% (1982-85)
 Yearly U.S. Aid Per Capita \$ 3.43 (1982-85)



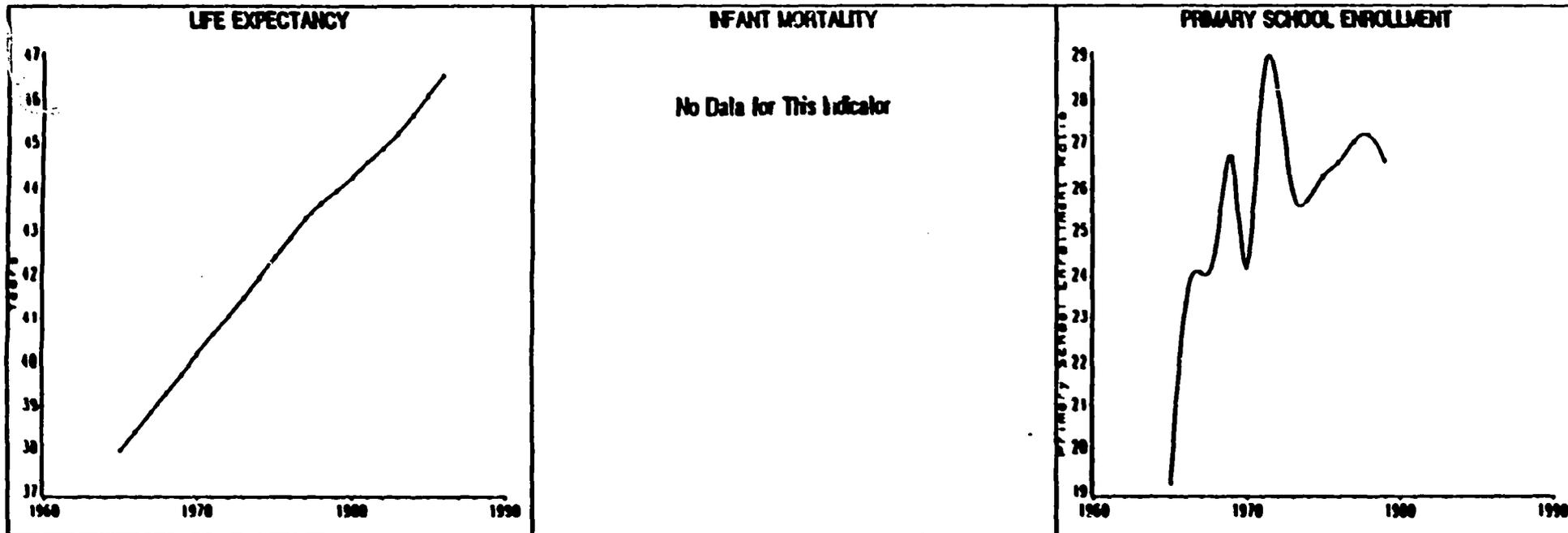
NATIONAL INCOME AND EXPENDITURES			
Per Capita GNP	(1985)	150	
Average Annual Real Per Capita GNP Growth Rate	(1965-85)	1.4%	
Government Budgetary Expenditures as a % of GNP	()	%	
Total Expenditures and Net Lending (\$ Millions, US):			
(1981)	638	(1982)	699 (1983) 681
Budgetary Deficit or Surplus (\$ Millions, US):			
(1981)	-108	(1982)	-192 (1983) -181

INTERNATIONAL RESERVES AND EXTERNAL DEBT			
Official International Reserves Equivalent to 0.8 Months of Imports (1986)			
External Public Debt as % of GNP	(1985)	124%	
Service Payments on External Public Debt, (\$ Millions, US)	(1985)	38	
As % of Total Export Earnings	()	%	

EXTERNAL TRADE (IN 1980 CONSTANT \$US)			
Trade Balance (\$ Millions, US)	()	()	()
Total Imports (\$ Millions, US)	()	()	()
Of Which % From U.S.	(1986)	9%	
Major Imports (1985) TEXTILES; VEHICLES; PETROLEUM PRODUCTS			
Total Exports (\$ Millions, US)	()	()	()
Of Which % to U.S.	(1986)	5%	
Major Exports (1985) LIVESTOCK; PEANUTS; DRIED FISH			
Trading Partners: FRANCE; IVORY COAST; GERMANY, FEDERAL			
AGRICULTURE			
Agricultural Production as % of GDP	(1983)	46%	
Major Crop(s)			
Subsistence:	MILLET; SORGHUM; RICE	As % of Arable Land	30% (1986)
Cash:	COTTON; . . .		10% (1986)
Ag. Exports: (1986) COTTON; LIVESTOCK; . . .			
Ag. Imports: (1986) WHEAT; RICE; RAW SUGAR			

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MALI -- Social Indicators



POPULATION

Total Population... (Thousands, Mid 1987) 8,423

Population Growth Rate... (1970) 2.2% (1978) 2.4% (1987) 2.8%

Population (1987) By Age Group:
 (0-14yrs) 44.8% (15-64yrs) 52.1% (65+ yrs) 3.1%

Married Women Aged 15-49 yrs. Using Contraception... (1977) 1.0%

Total Fertility Rate... (1970) 6.6 (1987) 6.6

HOUSEHOLD INCOME AND EMPLOYMENT

National Income Received by Low 20% of Population... () %

% of Population Living Below Absolute Poverty Level
 () Total % Urban % Rural %

Labor Force Participation as % of Working Age Population
 () %

Proportion of Labor Force in Agriculture... () %

NUTRITION AND HEALTH

Per Capita Calorie Supply as a % of Requirements... (1982) 74%

Life Expectancy at Birth, in Years
 (1986) Total 46.5 Male 44.9 Female 48.2
 (1970) Total 40.2 Male 39.3 Female 41.0

Infant Deaths in First Yr of Life per 1000 Live Births (1987) 155

% of Children 12-23 Months Old Fully Immunized Against
 Tuberculosis (BCG) 19% (1981) Measles % ()
 Diphtheria (DPT) % () Polio (3) % ()

Population with Reasonable Access to Safe Water Supply
 (1980) 6%

EDUCATION AND LITERACY

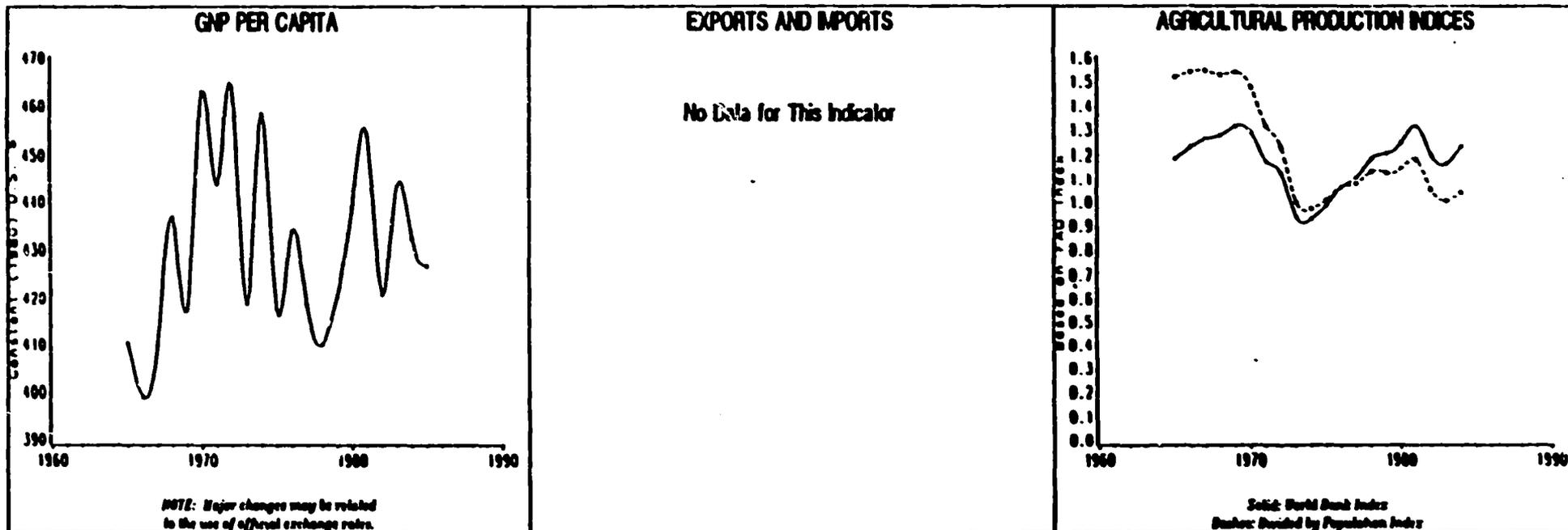
Total School Enrollment as Ratio of Population in Age Group:
 Primary (1979) Total 26.6 Male 34.5 Female 19.8
 Secondary (1978) Total Male Female 4.8
 Post Secondary (1979) Total 0.8 Male 1.5 Female 0.2

Adult Literacy Rate () Total % Male % Female %

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MAURITANIA -- Economic Indicators

Total U.S. Aid \$ 141 Million (1954-86)
 Ratio of U.S. Aid To Total ODA 7.1% (1982-85)
 Yearly U.S. Aid Per Capita \$ 8.59 (1982-85)

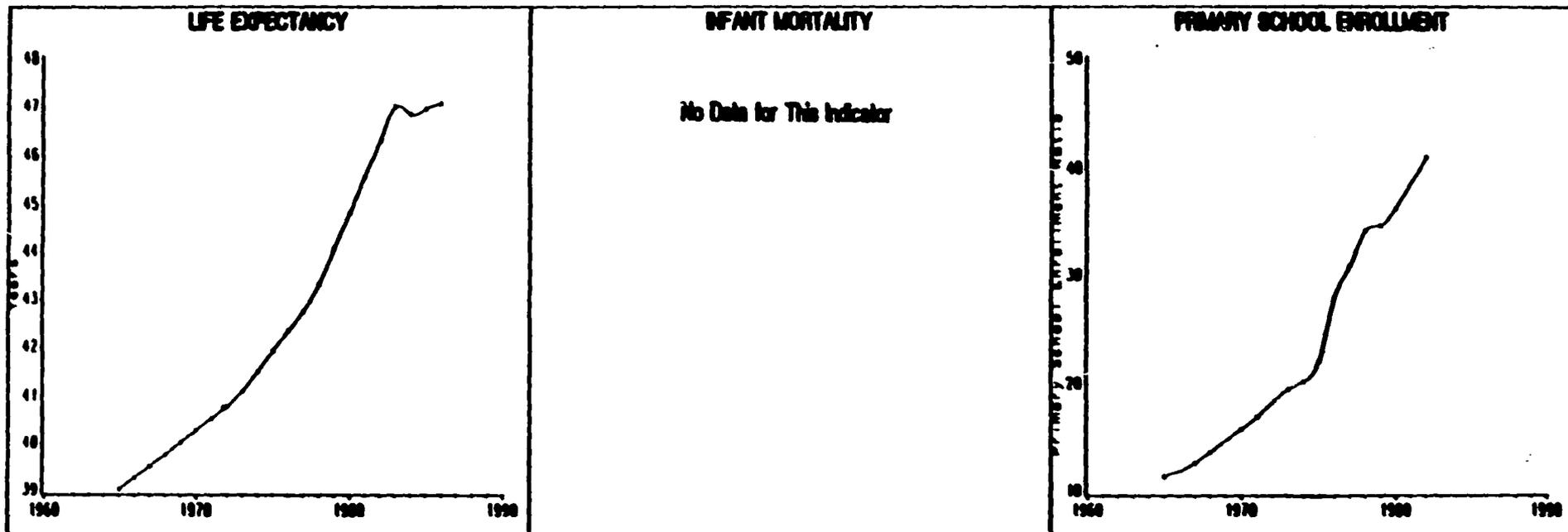


NATIONAL INCOME AND EXPENDITURES			
Per Capita GNP	(1985)	420	
Average Annual Real Per Capita GNP Growth Rate	(1965-85)	0.1%	
Government Budgetary Expenditures as a % of GNP	()	%	
Total Expenditures and Net Lending (\$ Millions, US):			
(1977)	243	(1978)	231
(1979)			242
Budgetary Deficit or Surplus (\$ Millions, US):			
(1977)	-37	(1978)	-19
(1979)			-32

INTERNATIONAL RESERVES AND EXTERNAL DEBT			
Official International Reserves Equivalent to 1.6 Months of Imports	(1985)		
External Public Debt as a % of GNP	(1985)	210%	
Service Payments on External Public Debt (\$ Millions, US)	(1985)	78	
As a % of Total Export Earnings	(1984)	14.6%	

EXTERNAL TRADE (IN 1980 CONSTANT US\$)			
Trade Balance (\$ Millions, US)	()	()	()
Total Imports (\$ Millions, US)	()	()	()
Of which % From U.S.	(1985)	9%	
Major Imports (1985) FOODSTUFFS; PETROLEUM PRODS; CAPITAL GOODS			
Total Exports (\$ Millions, US)	()	()	()
Of which % to U.S.	(1985)	0%	
Major Exports (1985) IRON & STEEL; PROCESSED FISH; GUM ARABIC			
Trading Partners: FRANCE; SPAIN; ITALY			
AGRICULTURE			
Agricultural Production as a % of GDP	(1984)	28%	
Major Crop(s)			As a % of Arable Land
Subsistence: MILLET; SORGHUM; RICE			58% (1985)
Cash:			% (1986)
Ag. Exports: (1986) CATTLE:			
Ag. Imports: (1986) WHEAT; RICE:			

MAURITANIA -- Social Indicators



POPULATION

Total Population... (Thousands, Mid 1987) 1.863

Population Growth Rate... (1970) 1.8% (1978) 2.5% (1987) 2.9%

Population (1987) By Age Group:
 (0-14yrs) 46.8% (15-64yrs) 50.4% (65+ yrs) 2.8%

Married Women Aged 15-49 yrs. Using Contraception... (1981) 1.0%

Total Fertility Rate... (1970) 6.4 (1987) 7.3

HOUSEHOLD INCOME AND EMPLOYMENT

National Income Received by Low 20% of Population... () %

% of Population Living Below Absolute Poverty Level
 () Total % Urban % Rural %

Labor Force Participation as % of Working Age Population
 (1978) 55%

Proportion of Labor Force in Agriculture... () %

NUTRITION AND HEALTH

Per Capite Calorie Supply as a % of Requirements... (1983) 97%

Life Expectancy at Birth, in Years
 (1986) Total 47.1 Male 45.8 Female 48.3
 (1970) Total 40.3 Male 41.5 Female 43.4

Infant Deaths in First Yr of Life per 1000 Live Births (1987) 100

% of Children 12-23 Months Old Fully Immunized Against
 Tuberculosis (BCG) 74% (1984) Measles 59% (1984)
 Diphtheria (DPT) 21% (1984) Polio (3) 21% (1984)

Population with Reasonable Access to Safe Water Supply
 (1980) 84%

EDUCATION AND LITERACY

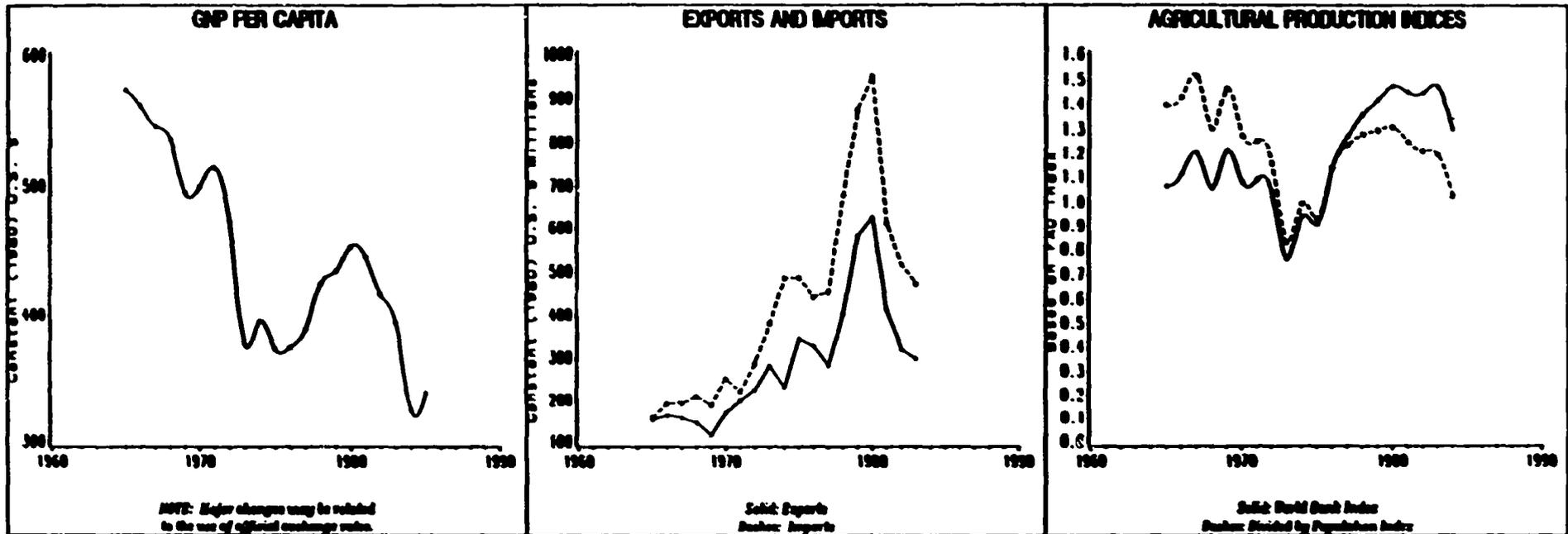
Total School Enrollment as Ratio of Population in Age Group:
 Primary (1982) Total 41.1 Male 46.3 Female 26.1
 Secondary (1980) Total 10.7 Male 17.0 Female 4.4
 Post Secondary () Total % Male % Female %

Adult Literacy Rate () Total % Male % Female %

PH

NIGER -- Economic Indicators

Total U.S. Aid \$ 293 Million (1961-85)
 Ratio of U.S. Aid To Total ODA 10.9% (1982-85)
 Yearly U.S. Aid Per Capita \$ 4.89 (1982-85)



NATIONAL INCOME AND EXPENDITURES

Per Capita GNP	(1985)	250
Average Annual Real Per Capite GNP Growth Rate (1965-85)		-2.1%
Government Budgetary Expenditures as a % of GNP...	()	%
Total Expenditures and Net Lending (\$ Millions, US):		
(1986)	386	()
Budgetary Deficit or Surplus (\$ Millions, US):		
(1986)	91	()

INTERNATIONAL RESERVES AND EXTERNAL DEBT

Official International Reserves Equivalent to 4.3 Months of Imports (1986)	
External Public Debt as a % of GNP... (1985)	64.5%
Service Payments on External Public Debt. (\$ Millions, US) ... (1985)	67
As a % of Total Export Earnings ... (1983)	18.3%

EXTERNAL TRADE (IN 1980 CONSTANT \$US)

Trade Balance (\$ Millions, US) (1981)	-200(82)	-199(83)	-175
Total Imports (\$ Millions, US) (1981)	615(82)	519(83)	474
Of which % From U.S. (1986)			1%
Major Imports (1985) PETROLEUM PRODS; PRIMARY MATLS.; MACHINERY			
Total Exports (\$ Millions, US) (1981)	415(82)	321(83)	299
Of which % to U.S. (1986)			5%

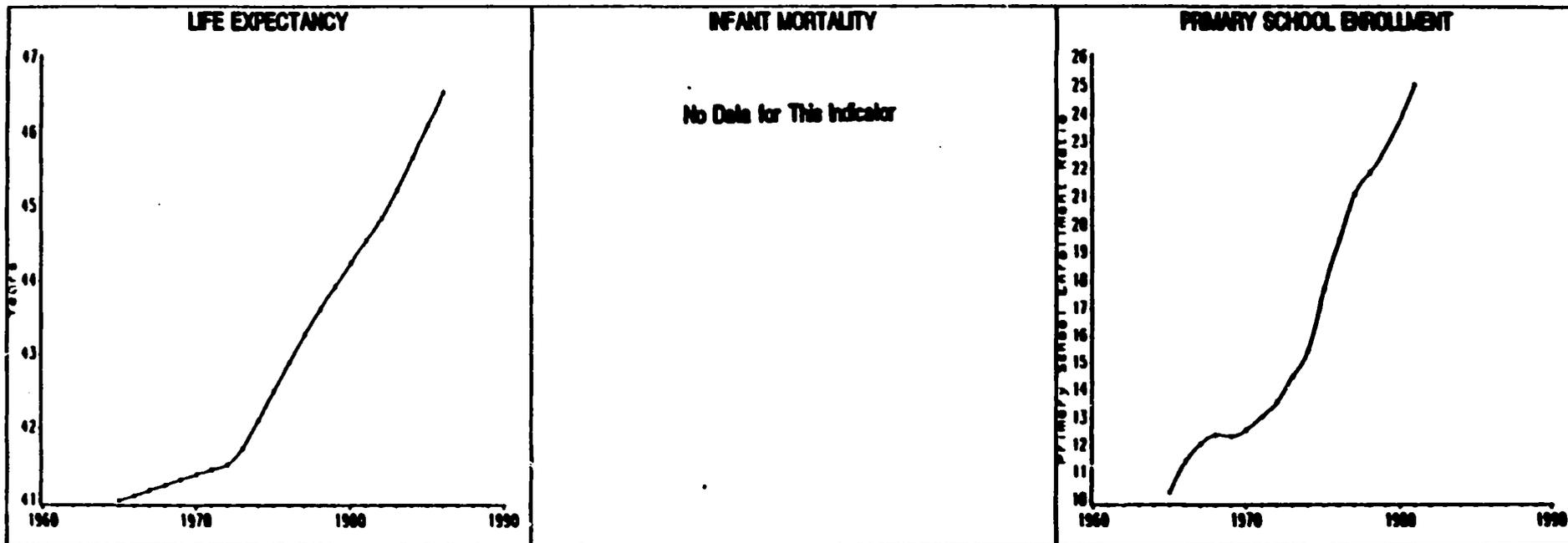
Major Exports (1985) URANIUM; LIVESTOCK; COMPEAS

Trading Partners: FRANCE; NIGERIA; JAPAN

AGRICULTURE

Agricultural Production as a % of GDP... (1985)	47%
Major Crop(s)	As a % of Arable Land
Subsistence: MILLET; SORGHUM;	28% (1986)
Cash: COMPEAS; ..	10% (1986)
Ag. Exports: (1986) LIVESTOCK; COMPEAS;	
Ag. Imports: (1986) WHEAT; RICE;	

NIGER -- Social Indicators



POPULATION

Total Population... (Thousands, Mid 1987) 6.989

Population Growth Rate... (1970) 2.8% (1978) 3.3% (1987) 3.2%

Population (1987) By Age Group:
 (0-14yrs) 47.4% (15-64yrs) 50.1% (65+ yrs) 2.5%

Married Women Aged 15-49 yrs. Using Contraception... (1977) 1.0%

Total Fertility Rate... (1970) 6.8 (1987) 6.8

HOUSEHOLD INCOME AND EMPLOYMENT

National Income Received by Low 20% of Population... (%)

% of Population Living Below Absolute Poverty Level
 () Total % Urban % Rural %

Labor Force Participation as % of Working Age Population (1985) 51%

Proportion of Labor Force in Agriculture... (1983) 90%

NUTRITION AND HEALTH

Per Capita Calorie Supply as a % of Requirements... (1985) 100%

Life Expectancy at Birth, in Years
 (1986) Total 46.5 Male 44.9 Female 48.2
 (1970) Total 41.4 Male 40.4 Female 42.3

Infant Deaths in First Yr of Life per 1000 Live Births (1987) 140

% of Children 12-23 Months Old Fully Immunized Against
 Tuberculosis (BCG) 28% (1981) Measles 19% (1981)
 Diphtheria (DPT) 6% (1981) Polio (3) 6% (1981)

Population with Reasonable Access to Safe Water Supply (1980) 33%

EDUCATION AND LITERACY

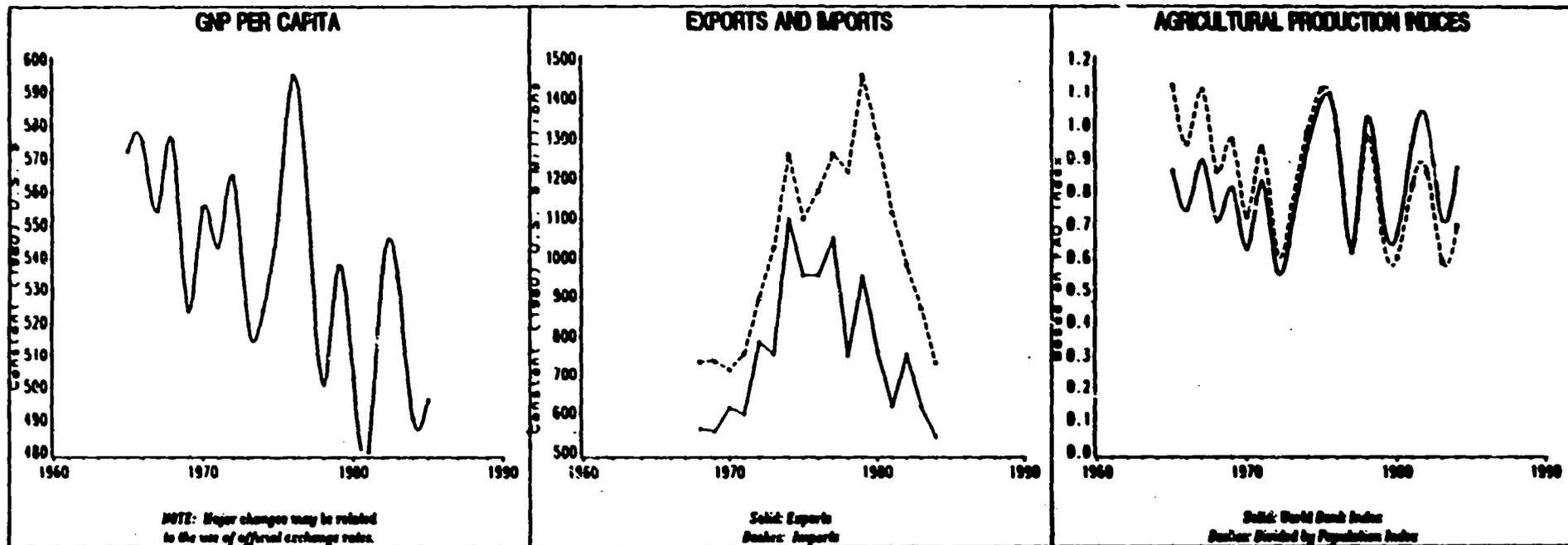
Total School Enrollment as Ratio of Population in Age Group:
 Primary (1984) Total 28.0 Male 34.0 Female 19.0
 Secondary (1984) Total 7.0 Male Female
 Post Secondary (1980) Total 0.2 Male 0.4 Female 0.1

Adult Literacy Rate (1980) Total 10% Male 14% Female 6%

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SENEGAL -- Economic Indicators

Total U.S. Aid \$ 423 Million (1961-86)
 Ratio of U.S. Aid To Total ODA 10.1% (1982-85)
 Yearly U.S. Aid Per Capita \$ 6.62 (1982-85)



NOTE: Major changes may be related to the use of official exchange rates.

Solid: Exports
 Dashed: Imports

Solid: World Bank Index
 Dashed: Divided by Population Index

NATIONAL INCOME AND EXPENDITURES	
Per Capita GNP	(1985) 370
Average Annual Real Per Capita GNP Growth Rate (1965-85)	-0.6%
Government Budgetary Expenditures as a % of GNP	() %
Total Expenditures and Net Lending (\$ Millions, US):	
(1985) 539 (1986) 688 (1987) 846	
Budgetary Deficit or Surplus (\$ Millions, US):	
(1985) -81 (1986) -73 (1987) -36	

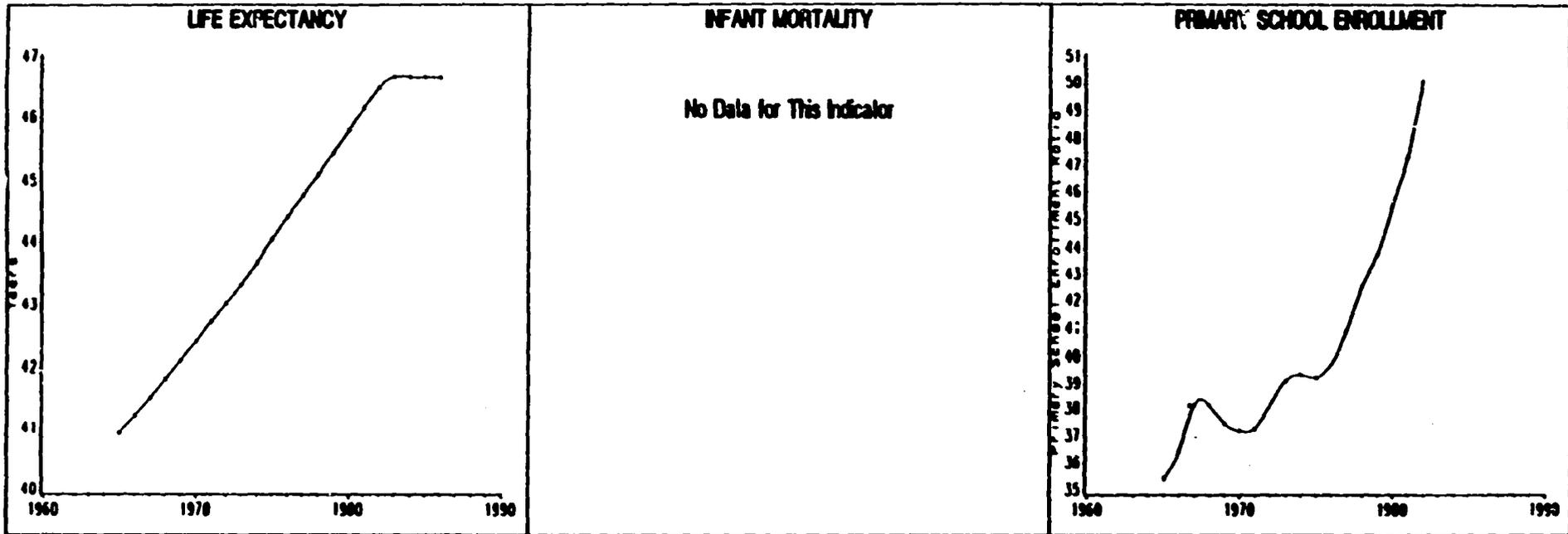
EXTERNAL TRADE (IN 1980 CONSTANT \$US)			
Trade Balance (\$ Millions, US) (1982)	-229(83)	-253(84)	-193
Total Imports (\$ Millions, US) (1982)	984(83)	870(84)	735
Of which % From U.S.		(1984)	7%
Major Imports (1985) FOOD; CONSUMER GOODS; MACHINERY			
Total Exports (\$ Millions, US) (1982)	755(83)	618(84)	542
Of which % to U.S.		(1984)	0%
Major Exports (1985) PEANUTS; PHOS. ROCK; FISH			
Trading Partners: FRANCE; COTE D'IVOIRE; UNITED KINGDOM			

INTERNATIONAL RESERVES AND EXTERNAL DEBT	
Official International Reserves Equivalent to 0.1 Months of Imports (1984)	
External Public Debt as a % of GNP	(1985) 82.3%
Service Payments on External Public Debt (\$ Millions, US)	(1985) 231
As a % of Total Export Earnings	(1985) 32.5%

AGRICULTURE	
Agricultural Production as a % of GDP	(1985) 18%
Major Crop(s)	
Subsistence: MILLET; CORN; RICE	As a % of Arable Land
Cash: PEANUTS; COTTON;	35% (1986)
	20% (1986)
Ag. Exports: (1986) PEANUT OIL; . . .	
Ag. Imports: (1986) RICE; WHEAT; . . .	

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SENEGAL -- Social Indicators



POPULATION

Total Population... (Thousands, Mid 1987) 7,064
 Population Growth Rate... (1970) 2.9% (1978) 2.9% (1987) 3.0%
 Population (1987) By Age Group:
 (0-14yrs) 46.3% (15-64yrs) 50.6% (65+ yrs) 3.1%
 Married Women Aged 15-49 yrs. Using Contraception... (1986) 11.7%
 Total Fertility Rate... (1970) 7.4 (1987) 6.6

HOUSEHOLD INCOME AND EMPLOYMENT

National Income Received by Low 20% of Population...
 % of Population Living Below Absolute Poverty Level
 () Total % Urban % Rural
 Labor Force Participation as % of Working Age Population
 ()
 Proportion of Labor Force in Agriculture... (1980) 81%

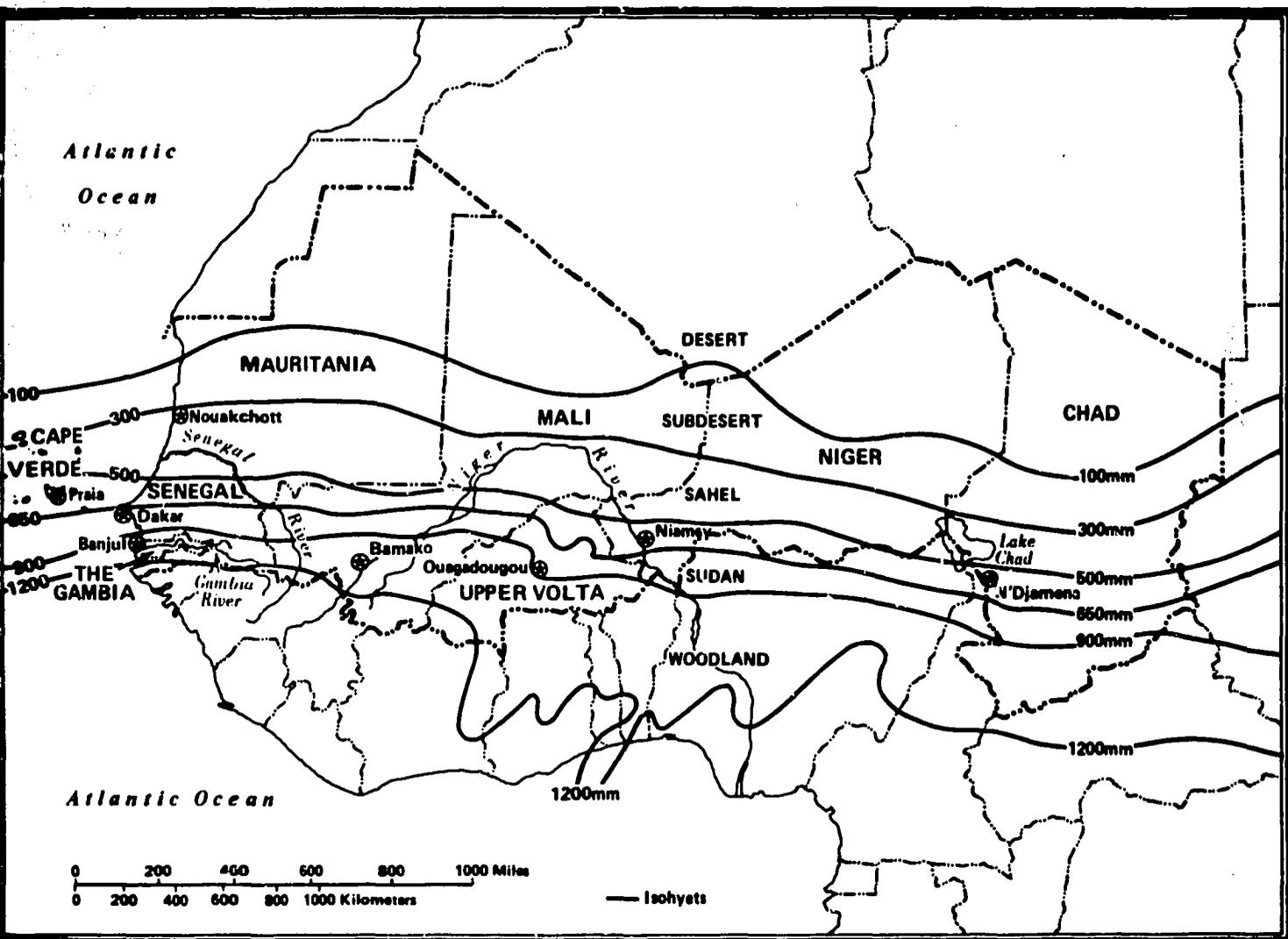
NUTRITION AND HEALTH

Per Capita Calorie Supply as a % of Requirements... (1983) 102%
 Life Expectancy at Birth, in Years
 (1986) Total 46.7 Male 45.7 Female 47.7
 (1970) Total 42.4 Male 41.5 Female 43.4
 Infant Deaths in First Yr of Life per 1000 Live Births (1987) 99
 % of Children 12-23 Months Old Fully Immunized Against
 Tuberculosis (BCG) 32% (1985) Measles 40% (1985)
 Diphtheria (DPT) 54% (1985) Polio (3) 54% (1985)
 Population with Reasonable Access to Safe Water Supply
 (1980) 42%

EDUCATION AND LITERACY

Total School Enrollment as Ratio of Population in Age Group:
 Primary (1982) Total 50.1 Male 57.3 Female 37.4
 Secondary (1982) Total 13.7 Male 17.0 Female 8.2
 Post Secondary (1980) Total 2.2 Male 3.6 Female 0.8
 Adult Literacy Rate (1985) Total % Male 37% Female 19%

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**The Sahelian Countries
Rainfall Map**