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SAHEL DEVELOPMENT PROGRAM TEAM  
EVALUATION BRIEFING DATA  
AND ISSUES

CHAD

October, 1977

SAHEL DEVELOPMENT PROGRAM TEAM EVALUATION BRIEFING DATA AND ISSUES

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## PRODUCTION SECTOR GOALS

### Rainfed and Irrigated Crop Production Sectors

#### Crop Demand Forecasts

Forecasts of rice/wheat and millet/sorghum/maize demand can be separated into forecasts of Chad's population, average cereal demand per capita, and the fraction of cereal demand allocated to rice/wheat:

- a. Population. The population in 1975 was estimated to be approximately 4,199,000 people and increasing at 2.8 percent per year. 1/
- b. Cereal Demand per Capita. Consumption per capita is estimated to be 154 kilograms per person per year. 2/
- c. Rice/Wheat Fraction of Total Cereal Demand. This fraction is estimated to be 5 percent. 3/

Based upon the above data, Table C1 presents the cereal consumption forecast.

TABLE C1

#### HISTORICAL TREND IN CHAD CEREAL DEMAND 1/

<u>YEAR</u>	<u>TOTAL CEREALS</u>	<u>RICE/WHEAT</u>	<u>MILLET/SORGHUM/MAIZE</u>
1980	742	37	705
1990	978	49	929
2000	1,290	65	1,225

1. Based on (a) forecasts for cereal demand per capita of 154 kilograms per person per year and rice/wheat fraction of demand of 5 percent, and (b) forecast of 3.0 percent per year increase in population.

SOURCE: FAO, Perspective Study on Agricultural Development in the Sahelian Countries, 1975-1990; CRED, Marketing, Price Policy and Storage of Cereals in the Sahel.

Other forecasts of cereal demand are presented in Table C2.

1. FAO, Perspective Study on Agricultural Development in the Sahelian Countries, 1975-1990, Volume I, 1976, p. 58.
2. Center for Research on Economic Development (CRED), Marketing, Price Policy of Cereals in the Sahel, Chad Study, p. 17.
3. Ibid., annex, Table 6.

TABLE C2

## FORECASTS OF CHAD CEREAL DEMAND

YEAR	Thousand Metric Tons					
	CLUB DU SAHEL SYNTHESIS WORKING GROUP			CLUB DU SAHEL RAINFED WORKING GROUP		CLUB DU SAHEL IRRIGATED WORKING GROUP
	TOTAL CEREALS	RICE/ WHEAT <u>1/</u>	MILLET/SORGHUM /MAIZE	MILLET/SORGHUM/ MAIZE	<u>2/</u> <u>3/</u>	RICE/ WHEAT <u>1/</u>
1980	899	64	835	766	<u>4/</u>	67
1990	1,203	99	1,104	930		104
2000	1,665	120	1,545	1,166		138

1. Milled rice.
2. Excludes consumption from the Sahare Oasis Zone (BET).
3. Based on estimate of 157.7 kilograms per person per year.
4. 1981.

SOURCE: Letter to Mr. Shear, AFR/SFWA, from Mr. Stacy, Club du Sahel Secretariat, October, 1976; Club des Amis du Sahel, Equipe des Cultures Seches, Tchad Rapport de Synthese, March, 1977, p. 6; Groupe Cultures Irriguees, Republique du Tchad, Programmation des Equipements Hydro-Agricoles, March, 1977, p. 3.

The range of the forecasts shown in Tables C1 and C2 is presented in Figure C1.

#### Millet/Maize/Sorghum Production Trend

It is possible to project a future time trend, using the data in annex C and using econometric techniques, for millet/sorghum/maize production. 1/ However, the time period is too short to give much confidence in the results. The average production over the period is 676,000 metric tons. This average trend and the range of forecasts for consumption are presented in Figure C2.

#### Rice Production Trend

There is not enough data to project a trend using econometric techniques for rice/wheat. The average for milled rice and wheat production from 1966/67 to 1971/72 is 35,000 metric tons. 2/

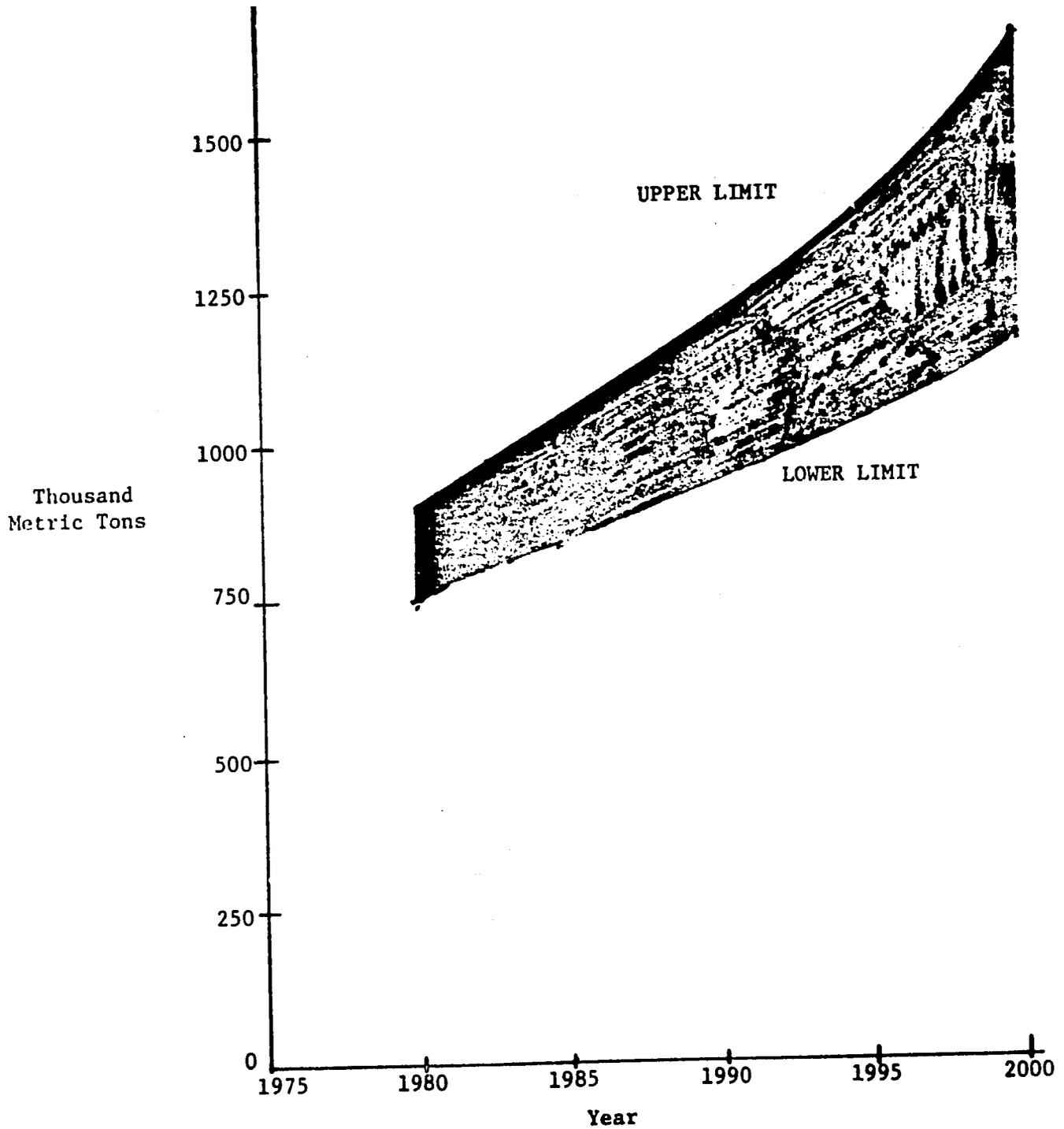
#### Comparing Total Cereal Production Trend and Cereal Demand Forecasts

The comparison of production trend and demand forecasts for cereals are presented in Figure C4.

1. Data for 1963/64 to 1971/72; CRED, Ibid., annex, table 1.
2. Data for 1966/67 to 1971/72; Ibid.

FIGURE C1

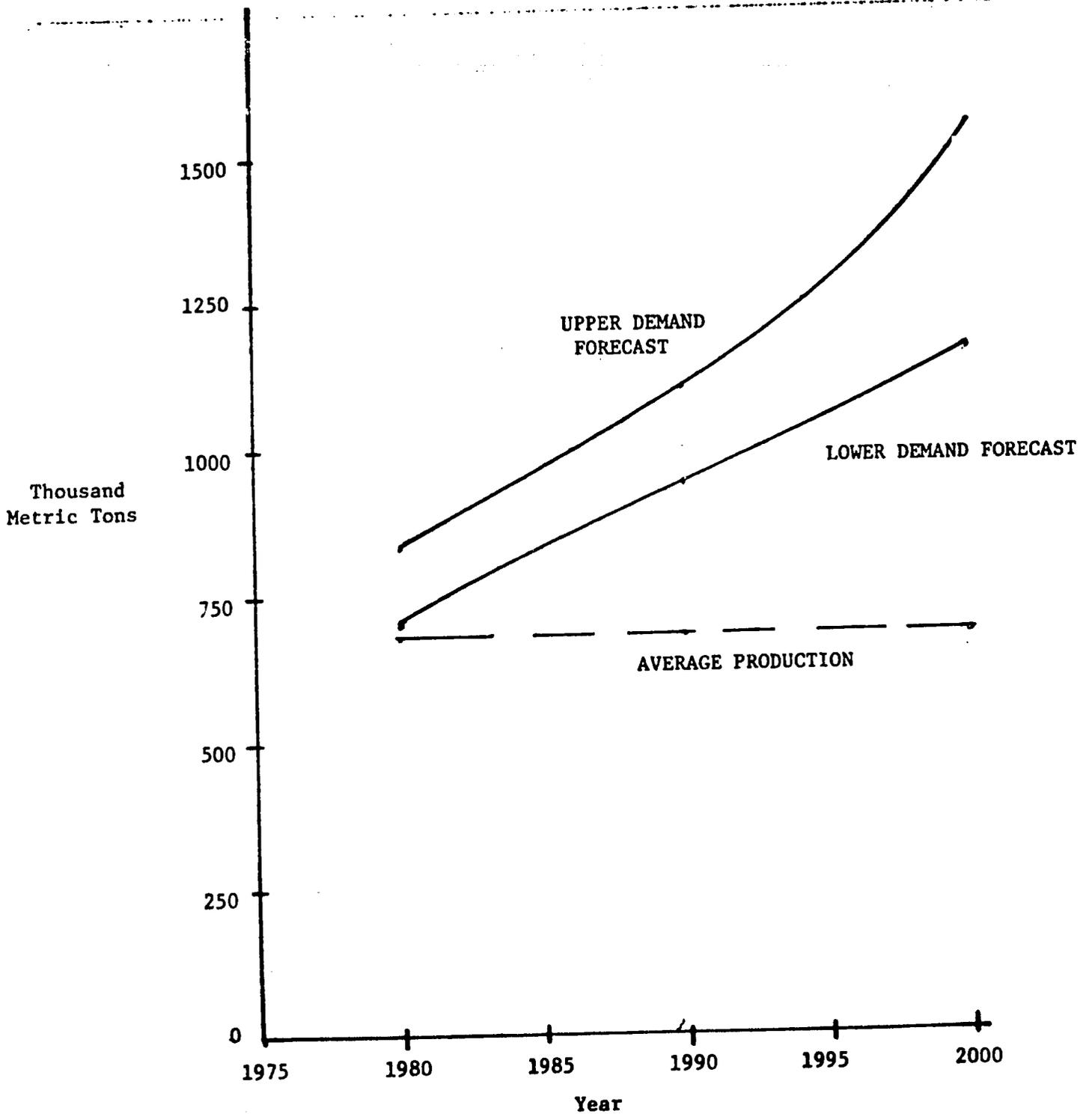
RANGE OF FORECASTS FOR TOTAL CEREAL DEMAND IN CHAD



SOURCE: Tables C1 and C2.

FIGURE C2

MILLET/SORGHUM/MAIZE PRODUCTION TIME TREND  
RANGE OF FORECASTS FOR DEMAND



SOURCE: Tables C1 and C2.

FIGURE C3

RICE/WHEAT PRODUCTION TIME TREND AND  
FORECASTS FOR RICE/WHEAT DEMAND

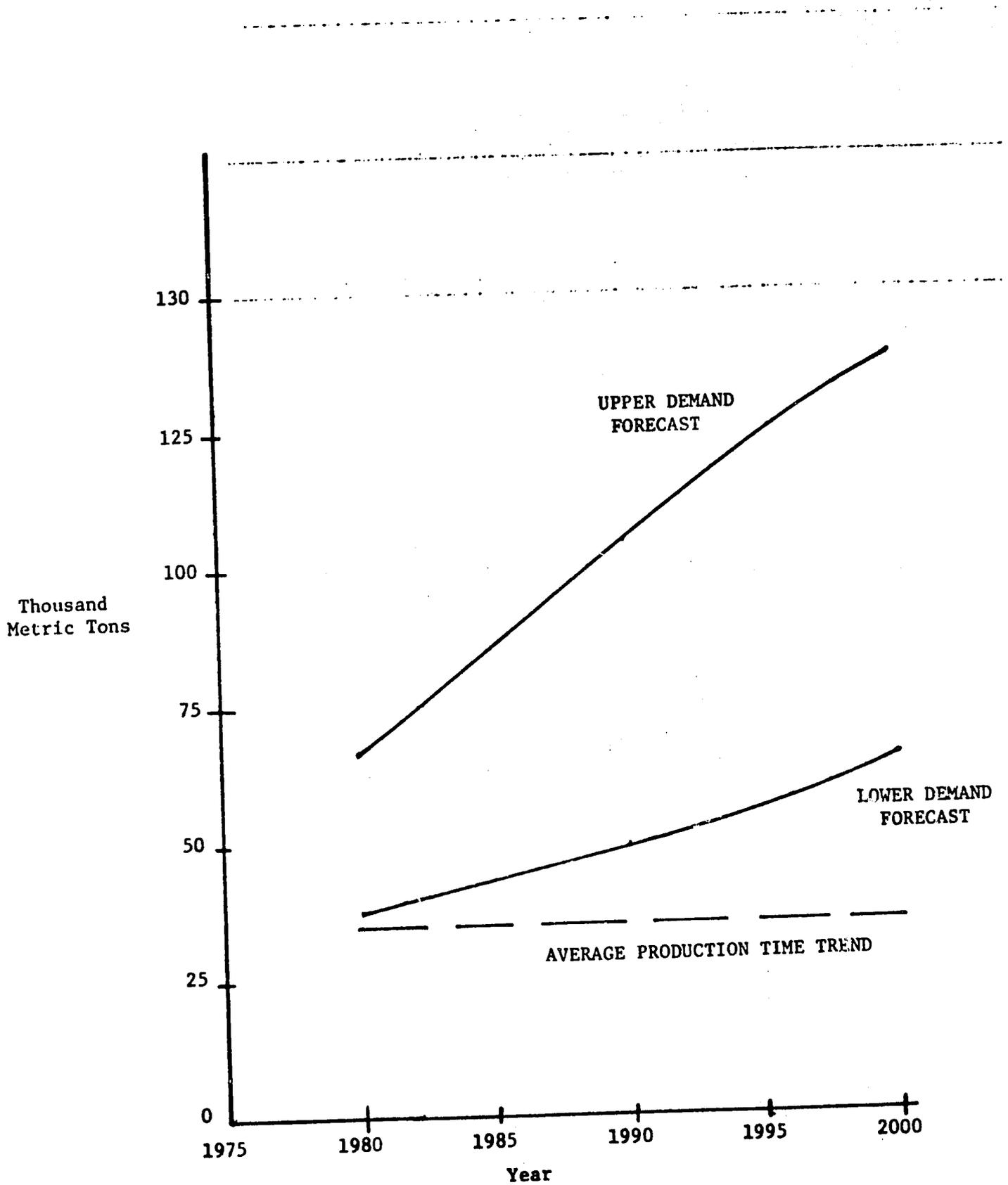
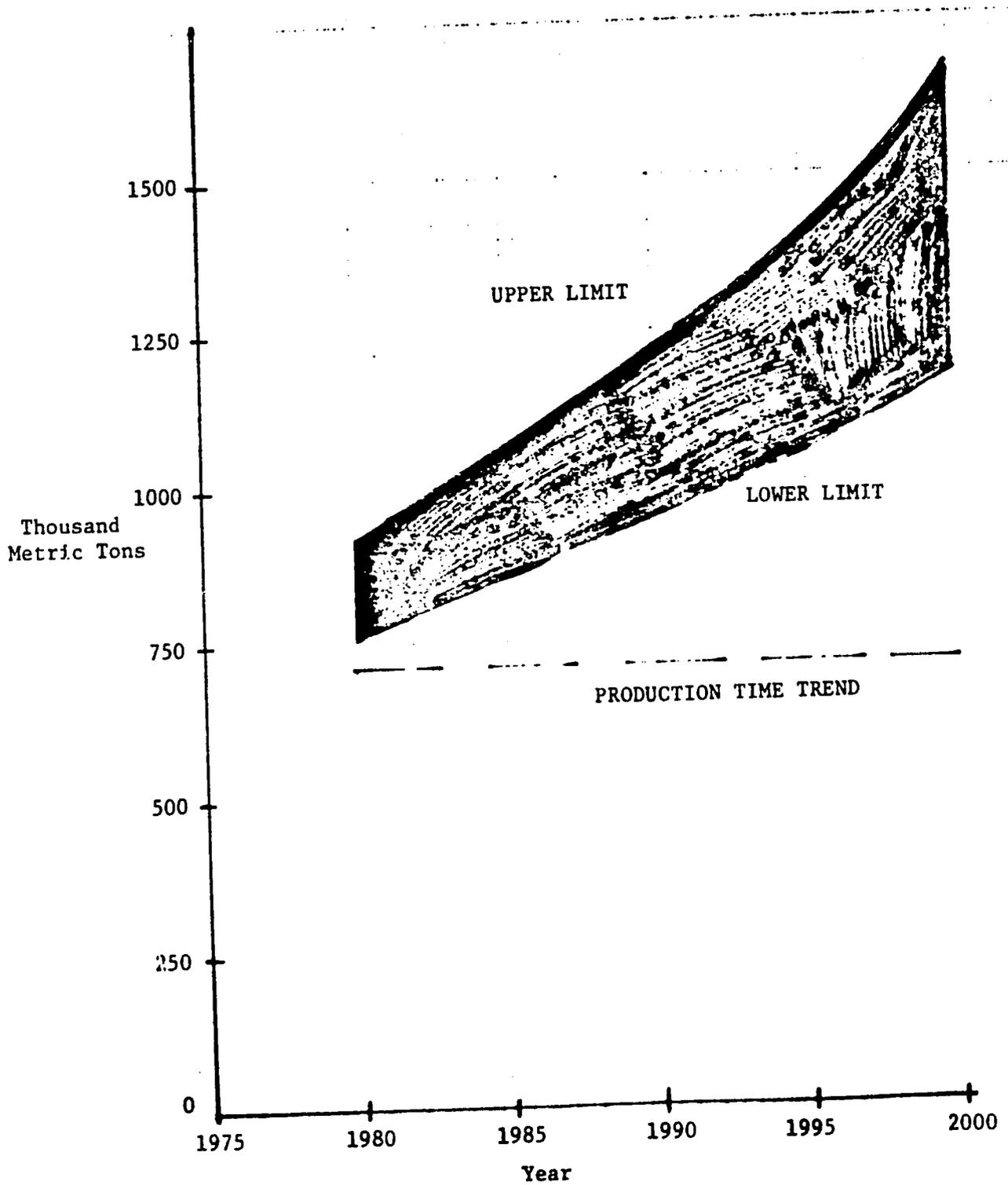


FIGURE C4

RANGE OF FORECASTS FOR TOTAL CEREAL DEMAND  
AND TOTAL CEREAL PRODUCTION TIME TREND



## AID Project Goals for Crop Production

AID has identified the following three areas as appropriate for assistance: 1/

- a. strengthening government institutional capacity to plan and execute crop production projects.
- b. improvement of production and marketing of subsistence crops of Sahelian zone and development of potential of Lake Chad polders for cultivation of food crops, and
- c. investments in the southern zone along the Logone River to improve production and marketing of basic crops (i.e., millet, sorghum, peanuts and rice).

The major projects that will directly affect crop production are:

- a. Lake Chad Irrigated Agriculture Project. The project in two phases will be to: 2/
  - develop and strengthen the Societe de Developpement du Lac (SODELAC) as a regional institution: management study, equipment and operation of a mobil maintenance brigade, and participant training,
  - research: problems and objectives of research at Matafo Research Station, land and water use in polders, production program development, and socio-economic research,
  - health activities: epidemiological survey, health services support,
  - special studies: technical review of polder development analysis, environmental assessment, sociological resettlement analysis, and
  - development of an irrigated area in the Bol area of Lake Chad.

This project funding is for \$6.9 million from FY 1977 to 1982.

- b. Bongor Irrigated Agriculture Project. Funding is for \$15 million from FY 1978 to 1982.
- c. Sudano-Sahelian Food Crops. This project represents the first phase of two Club Rainfed Crop Working Group proposed projects (i.e., 7702/CHD/P1 and P2). Proposed funding is for \$10 million from FY 1979 to 1983.
- d. Sahel Food Crop Protection Project.

AID support projects are:

- a. Agricultural Institutional Development Project. Assistance is to government units responsible for agriculture sector planning and program execution. Funding is for \$3.4 million from FY 1978 to 1979.
- b. Crop Production Research. The three sub-projects are: 3/

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1. AID, Chad FY79 ABS, June, 1977, pp. 10-11.  
2. AID, Lake Chad Irrigated Agriculture, Project Paper, June, 1977, pp. 8-9.  
3. AID, Crop Research, Project Review Paper, November, 1976.

- agronomic research,
- seed multiplication, and
- grain marketing: promote institutional development of Fonds du Développement de l'Action Rurale (FDAR). 1/

The costs, timing, and quantitative effects of the projects to affect crop production is presented in Table C3. The AID contribution to increasing Chad's crop production is presented in Figure C5.

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1. The organization chart of the Ministry of Agriculture is presented in annex D.

TABLE C3

## QUANTITATIVE CROP PRODUCTION GOALS OF AID PROJECTS

NAME	PROJECT INVESTMENT	PERIOD <sup>1/</sup>	MILLET/MAIZE/SORGHUM PRODUCTION				RICE/WHEAT PRODUCTION			
			PRESENT		GOAL		PRESENT		GOAL	
			YEAR	QUANTITY	YEAR	QUANTITY	YEAR	QUANTITY	YEAR	QUANTITY
Lake Chad Irrigated Agriculture <sup>2/</sup>	\$ 6,900,000	1977-81	-	-	-	-	1976	na <sup>3/</sup>	1981	5,600 MT <sup>4,5/</sup>
Bongor Irrigated Agriculture <sup>6/</sup>	\$15,000,000	1978-82	na	na	na	na	na	na	na	na
Sudano-Sahelian Food Crops <sup>7/</sup>	\$16,000,000	1979-83	na	na	1981	40,000 MT	1985	79,000 Mt <sup>5/</sup>		
Sahel Food Crop Protection <sup>8/</sup>	-	1975-78	1974	400,000MT	1979	na <sup>9/</sup>	1974	30,000MT	1979	na

1. U.S. Fiscal Year.
2. AID, Lake Chad Irrigated Agriculture, Project Paper, June, 1977, annex D.
3. na denotes not available.
4. Increment to present year production.
5. Assumed all rice.
6. AID, Chad FY79 ABS, June, 1977, p. 46.
7. AID, Chad FY79 ABS, June 1977, pp. 85-97.
8. AID, Sahel Food Crop Protection Project, Project Paper, June, 1975, pp. 152,167.
9. Original goals for coarse grains was 520,000 MT and for rice/wheat was 36,000 MT.

Other Donor Project Goals for Crop Production

Table C4 presents the major donors from 1974 to 1976. Assistance by sector is presented in annex E.

TABLE C4  
MAJOR DONOR ASSISTANCE COMMITMENTS TO CHAD

	Millions of Dollars		
<u>DONOR</u>	<u>1974</u>	<u>1975</u>	<u>1976</u> <u>1/</u>
France	26.38	27.42	44.47
European Economic Community (EEC)	12.5	23.13	26.19
IBRD	11	5	20
African Development Bank	-	14.99	14.94
United States	7.38	0.09	3.98
TOTAL	72.5	90.0	118.48

1. Incomplete.

SOURCE: Club des Amis du Sahel, Sectorial Breakdown of Official Development Assistance to the Sahel, 1974-1976.

## Club des Amis du Sahel Goals for Crop Production

The Club Rainfed Crop Working Group separates their strategy by the two major zones of Chad:

### a. Southern Zone.

- satisfactory historical results obtained by the Office National de Developpement Rural (ONDR) for cotton production,
- 5 prefectures: Mayo Kebbi, Logone occidentale, Logone orientale, Tanjile and Moyen Chari, with a Sudano-guineen climate,
- an encadrement structure, a road network,
- strategy: 1977-1990, concentrate on cotton development; 1990-2000, application of intensive techniques to an area of 300,000 hectares for cereals,
- latter development based on rural integrated development projects developed by AID.

### b. Northern Zone.

- a more modest approach than in the Southern zone since the climate is harsher and the encadrement and infrastructures are not as well developed,
- a three phase strategy: first phase, introduction of simple, more intensified cultivation techniques; second phase, introduction of selected seed varieties and more intensified techniques; and third phase, introduction of crop rotations with legumes, groundnuts, neibe with emphasis on fertilization.

Major support activities are:

- a. Agricultural research and seed multiplication.
- b. Support for introduction of animal traction.
- c. Crop protection.  
--AID, FAO projects
- d. Agricultural statistics.  
--AID, FAO projects
- e. Planning.

Two specific projects proposed by the Working Group are:

- a. Etude de Credit agricole, \$50,000 for two month study.
- b. Renforcement de la Multiplication des Semences, \$800,000 for 5 years.

The Club Irrigated Crop Working Group has a three phase strategy:

### a. Short term (1977-1982).

- rice: "bas-fonds" and rainfed, ONDR operations (17,500 hectares)
- wheat: Polders at Berim-Guini and Mamdi (2,200 hectares)

b. Medium Term (1982-1990).

- ✓ --rice: bas-fonds (4,000 hectares)
- wheat: Mamdi and 2 others (6,600 hectares)

c. Long Term (1990-2000).

- rice: ONDR operations (5,000 hectares); submersion controlled (7,000 hectares), and complete control irrigation (2,000 hectares)

The goals of those projects which directly affect production are presented in Table C5. Their contribution to increasing Chad crop production is presented in Figure C5.

TABLE C5

## QUANTITATIVE CROP PRODUCTION GOALS OF PROPOSED CLUB DU SAHEL PROJECTS

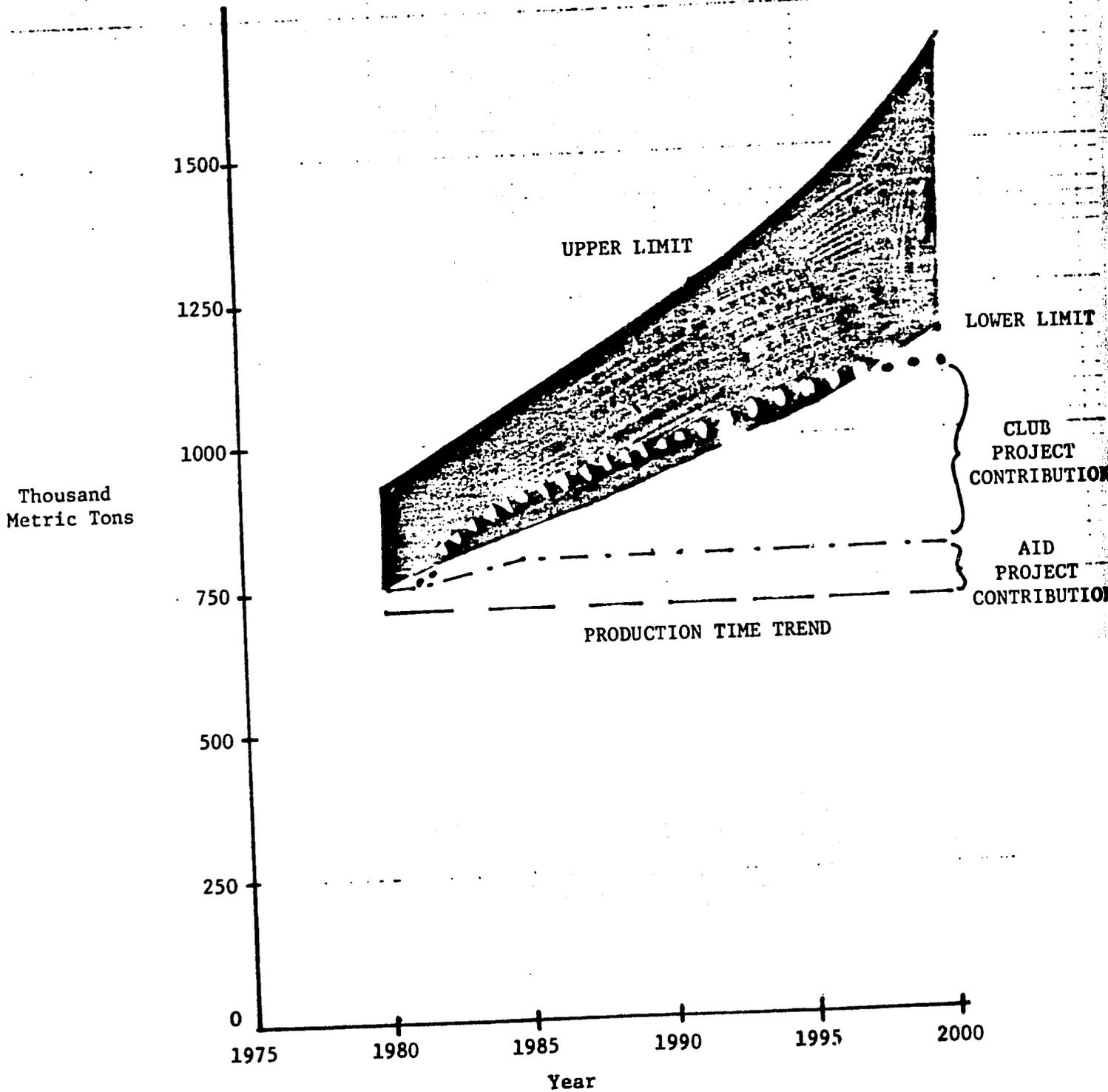
NAME	PROJECT		MILLET/MAIZE/SORGHUM PRODUCTION				RICE/WHEAT PRODUCTION			
	INVESTMENT	PERIOD	PRESENT		GOAL		PRESENT		GOAL	
			YEAR	QUANTITY	YEAR	QUANTITY	YEAR	QUANTITY	YEAR	QUANTITY
Programme de Renforcement des Actions de Vulgarisation et de Modernisation Agricola en Zone Sahelieene	\$ 55,000,000 <sup>1/</sup>	1977-2000	na	na	1981	3,500 MT <sup>2/-</sup>	-	-	-	-
					1985	22,860 MT				
					1990	32,500 MT				
					2000	50,000 MT				
Projet de Productivite Cerealiers en Zone Sud	\$144,000,000	1977-2000	na	na	1981	40,000 MT <sup>2/</sup>	-	-	-	-
					1985	79,000 MT				
					1990	116,000 MT				
					2000	214,000 MT				
Irrigation Projects	-	1977-2000	-	-	-	-	1976/77	52,000MT	1982	91,600MT
									1990	143,500MT
									2000	182,500MT

1. Exchange rate of CFA 250 = \$1.
2. Increment to present year production.

SOURCE: Club des Amis du Sahel, Equipe des Cultures Seches, Tchad Rapport de Synthese, 7702/CHD/P-1, P-2, March 1977; Groupe Cultures Irriguees, Programmation des Equipements Hydro-Agricoles, March, 1977

FIGURE C5

RANGE OF FORECASTS FOR TOTAL CEREAL DEMAND  
AND TOTAL CEREAL PRODUCTION TIME TREND



SOURCE: Table C1, C2, C3, and C5.

## Livestock Production Sector

### Livestock Demand and Production Forecasts

Beef demand can be forecast by projecting historical beef consumption at the population growth rate of 2.8 percent per year. Historical production and consumption and projected consumption are presented in Figure C6.

### AID Project Goals for Livestock Production

Major areas of AID involvement are:

1. Chad Range and Livestock Development. Purpose is to introduce range management and animal husbandry concepts and practices to government livestock service and herders. Funding is for \$4,470,000.
2. LCBC Livestock and Mixed Agriculture. Funding is for \$6,763,000 for FY 1978 to 1981.
3. Chad Range and Livestock Development - Phase II. AID intervention is part of an IBRD project with FED participation. Output would be:

- organization of livestock producers into geographic pastoral unit (PU) associations. The associations would receive exclusive grazing and watering rights for its PU.
- the Livestock Department would be reoriented to provide animal health and husbandry services to pastoralists.

Proposed AID funding is for \$7,425,000 for FY 1979 to 1982.

### Club de Sahel Projects for Livestock Production

The Club Livestock Working Group strategy is separated in 5 kinds of projects:

- a. Studies and research. A Bureau d'Etudes et Projects has to be created in N'Djamena to collect dates, to conceive design and evaluate new projects both in the field of agriculture and livestock. In addition, technical assistance for the Bureau is needed.
- b. Animal health. As a result of a French-German study of the needs of the Chadian animal health service, a recommendation is made for new equipment for the veterinary and disease control service for trypanosomiasis control. Other projects include:
  - a program for control of glossines in the Chari region and in the cotton belt, and
  - assistance to the Farcha laboratory.
- c. Production.
  - development of livestock in the Batha-Kanem region: an integrated projects with components in veterinary treatments, "zootechniques", improved social conditions, etc.
  - assistance to Centre de Modernization des Production Animals in N'Djamena. The center is specialized in production of atticks and milk products.

The project consists in developing this production and production and distribution of cattle food in the N'Djamena region,  
--industrial fattening: creation of a pilot-center for industrial fattening near Sahr. Fattening will utilize the by-products of the cotton oil-mill and of the sugar industry under construction,  
--farm fattening in the cotton-belt by using agricultural by-products, and  
--reconstitution of herd.

d. Training and communications.

--scholarships for training abroad,  
--assistance to the restructuring of agricultural training,  
--additional infrastructure for the Ecole Nationale d'Agents Techniques de l-elevage. Equipment for this center is presently insufficient and a 5 year project is proposed to improve it.  
--retraining of livestock technical agents.

e. Marketing.

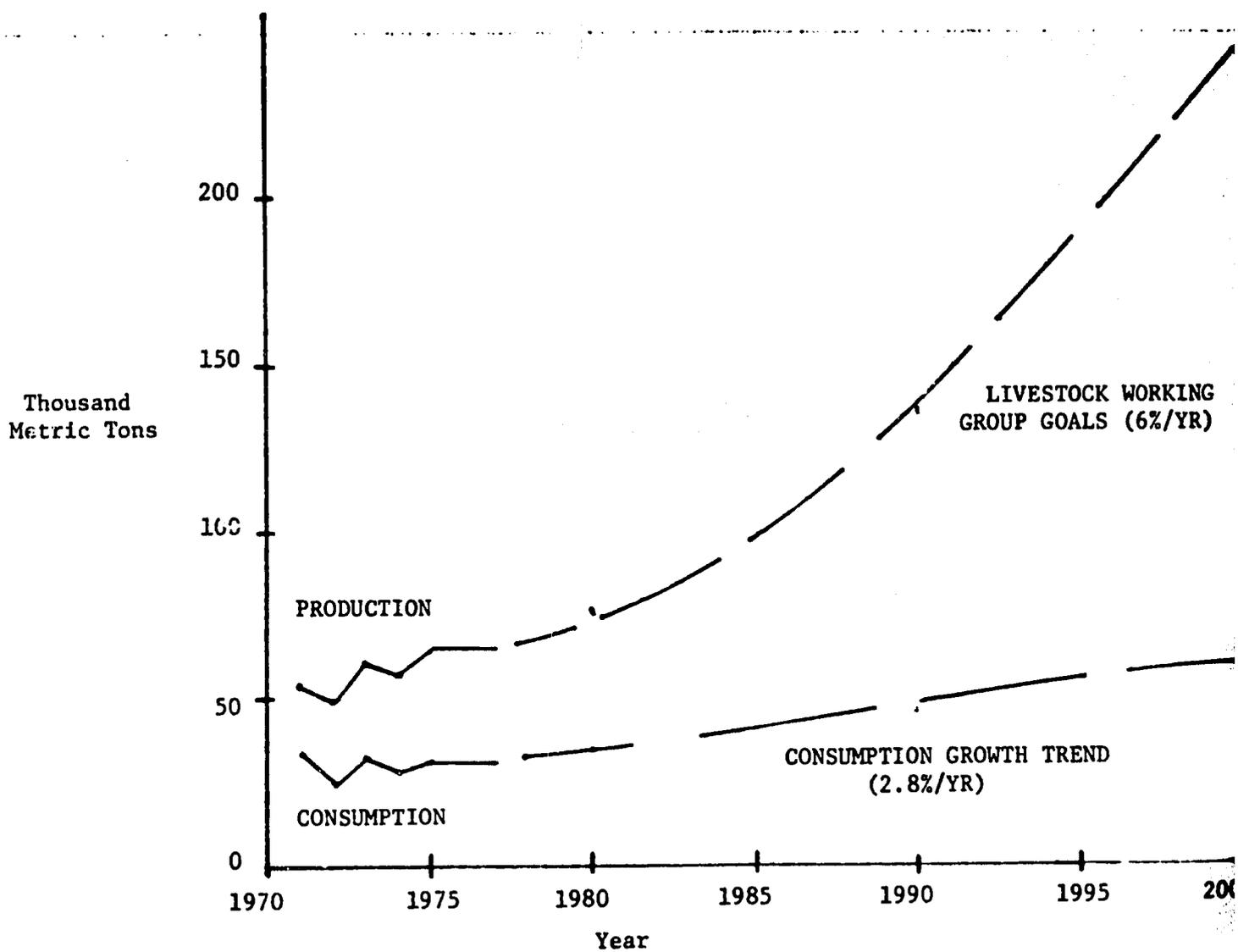
--marketing of draught oxen at the end of their useful life, and  
--establishment of watering points on livestock herding routes.

Group projects for which documentation is available are:

- a. Projet d'Assistance pour la Creation d'un: Bureau des Etudes at Projets (BEP) \$640,000.
- b. Projet d'Assistance au Centre de Modernisation des Productions Animales (CMPA).
- c. Projet de Creation d'un Centre Pilote d'Embouche Industriel.
- d. Projet d'Assistance l'Ecole Nationale des Agents Techniques d'Elevage.

FIGURE C6

PRODUCTION OF BEEF IN CHAD  
AND CLUB LIVESTOCK GOALS



## CONSTRAINTS TO DEVELOPMENT

### AID Identified Constraints

The AID mission has highlighted the following constraints: 1/

- a. Poorly developed human resource base.
- b. Underdeveloped system for providing agricultural inputs and marketing products and government pricing policies.
- c. Deterioration of the natural resources base.
- d. Underdevelopment of domestic and regional transportation network.
- e. Poor health of population.

### Club Identified Constraints

The Club has identified an additional constraint, that of population growth.

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1. AID, Chad FY79 ABS, June, 1977, pp. 3, 18.

## Strategies to Alleviate Constraints

### Poorly Developed Human Resource Base

#### 1. The U.S. Strategy:

The primary AID project is the Comprehensive Human Resources Development Project. This project has three components: 1/

- a. Support of the National Institute of Education Sciences (INSE). The INSE is in the Chad Ministry of Education, Culture, Youth and Sports (MENCJS). The project will provide:

- technicians to strengthen INSE's capabilities: Education Planner (4 years), Education Evaluator (3 years), Adult Education (3 years), and Adult Educator (3 years),
- scholarships to 8 Chadian, two in each of the four above areas in M.A. programs,
- 27 workshop centers (i.e., furnished workshop, classroom, and storage space) to serve regional needs and support development of women's handicraft activities.

The proposed budget for this component was \$3,154,000, or 67 percent of total project costs.

- b. Human Resources Planning. The purpose is to establish a system of manpower planning which will assure Chadians trained at middle and higher levels will find "useful" employment directly or "indirectly" in the "national interest". Assistance will be to the Division of Human Resources of the Ministry of Finance, Economy and Plan. The project will provide:

- a Manpower Planning Specialist in the Projects Bureau within the Human Resources Division to design, implement, and evaluate a manpower planning system,
- a Manpower Survey Specialist in the Data Bureau who will survey and project human resources needs and supply, and
- training for 2 Chadians, one in planning and one in statistical analysis.

The proposed budget for this component was \$561,000, or 12 percent of total project costs.

- c. Project Management Training. This is the first phase of an effort to develop a government capability to understand and use project management concepts and methods in its economic and social development. The project will be organized under the Centre d'Etudes et de Formation pour le Developpement (CEFOD). The project will:

- develop training materials, and
- teach higher and middle-level Chadians to apply project management approaches.

The proposed budget for this component was \$1,016,000, or 21 percent of total project costs.

The project is over FY1977 through 1980.

Another project is the Rural Communications Training Project. The project is for training of 300 instructors of farm training centers, Centres de Formation Professionnelle Agricole:

- 1,000 extension agents of the Chadian extension service,
- 2,200 primary school teachers, and
- 500 primary school principals.

Training will be in communications skills to enable them to relate to rural farm families and assist them more effectively. Funding is for \$2,728,000 for FY 1978 to 1982.

## 2. The Club Strategy:

The Club Human Resources Working Group has analyzed the need for agricultural cadres by 1990:

- 223 agricultural engineers,
- 540 technical agents and "conducteurs de travaux", and
- 2,200 monitors.

They have analyzed the present system for training farmers and training of monitors and technical agents. Their conclusion is that this system is a coherent one, but that some improvements are necessary both to increase the quantity of farmers and monitors trained and to improve the quality of the training. The report deals only with technical training and does not deal with basic education.

The first improvement recommended concerns the Centres de Formation Professionnelle Agricole. Presently 34 centers exist (33 in the southern zone and only 1 in the northern zone) and 6 are under construction. Twenty-four new centers (14 in the southern zone and 10 in the northern zone) have to be planned from now to 2000. In addition, actions for improvement of pedagogical methods have to be completed.

A second set of actions concerns the training of cadres:

- monitors: 1 specialized training center exists, another is under construction, a third has to be built during the next years,
- technical agents: the extension of the present training center in Bailli has to be planned,
- "conducteurs de travaux": The IBRD has financed the construction of a training center in Sahr. The problem is to accelerate the training of new conducteurs and retrain old ones, and
- creation of a fund for training of high level cadres. This fund will finance scholarships for future agricultural engineers trained abroad and the formation of the Institut Universitaire de Technologie graduates (crop and livestock) in N'Djamena.

A third area is the training of craftsmen, specialized in rainfed crop materials and agricultural machinery. This training has to be performed in training workshops.

In addition, the Group proposes the creation of a training center for communications techniques, in order to train all people who must participate in the diffusion of new agricultural methods.

Specific projects are:

- a. Formation Professionnelle des Agriculteurs et des Eleveurs: Accroissement du Reseau des Centres de Formation Professionnelle Agricole. \$4.8 million.
- b. Contribution a la Formation des Encadreurs de Base. \$1.4 million.
- c. Contribution a la Formation des Agents Techniques d'Agriculture. \$4.5 million.
- d. Contribution a la Formation des Conducteurs des Travaux Agricole.
- e. Creation d'un Fonds de Formation des Cadres Superieurs de l'Agriculture. \$3.7 million.
- f. Ecoles-ateliers de Formation d'Artisians Ruraux et de Production de Materiels Agricoles. \$360,000.

## Marketing and Price Policies

### 1. The U.S. Strategy:

There are no projects directly in this area. The Crop Research Project has a crop marketing component. As time progresses the Mission will direct the government's attention to desired marketing policies and practices. 1/

### 2. The Club Strategy:

The Club Marketing, Price, and Storage Working Group has not yet established a storage strategy.

Consultants for the Working Group, the Center for Research on Economic Development (CRED), have recommended that the governments encourage private traditional trade rather than state marketing boards. CRED argued that although private and para-state structures have been established, they have not replaced the private sector. Rather they have hindered cereal expansion programs. All the Sahelian representatives strongly opposed this proposal. Their claim was that production has suffered from the private sector's way of operating and their nearly systematically mercantilistic behavior. The majority of the team members recommended:

- a. measures be taken to enable producers to organize themselves and manage the organizations which best protect their interests, and
- b. that existing parastatal marketing structures and the local development authorities and projects offices be given all possible human, financial, and material means to purchase and market grains. Insofar as possible the private sector should be governed by regulations designed to provide "the best service at the best price".

The Working Group has not yet made a recommendation on price policy. They indicated that several prior studies should be first made, for example:

- a. repercussions of a policy of high grain prices on the urban and rural consumers,
- b. evaluation of cost prices for various crops, at various technical levels, in order to determine the relationship between the various agricultural crops,
- c. effects of a policy of higher producer prices on the economy of the various production units, in terms of their size (knowledge of the distribution of income at each level, typology of the production unit),
- d. study of food consumption to assess consumption prospects for each type of product (e.g., rice, sorghum, millet, etc.), and
- e. storage at village levels. 2/

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1. AID, Chad FY 77 ABS, June 1977, pp. 4-5.

2. Club des Amis du Sahel, Synthesis Working Group, Proposals for Drought Control and Development Programme and Strategy for the Sahel.

## Deterioration of Natural Resource Base

### 1. The U.S. Strategy:

Initial project intervention will be concerned with improved management of pastures. The Mission plans closer collaboration with the Club, concerning wood production, and with UNDP concerning conservation and replenishment of water resources.

### 2. The Club Strategy:

The Club's Ecology and Environment Working Group has proposed a forestry strategy. 1/  
The objectives of the strategy are:

- a. supply population needs for combustible wood and construction timber,
- b. forage protection and management,
- c. improved agricultural production factors, and
- d. protection and appropriate exploitation of wildlife.

The strategies to meet these objectives are based on four subprograms. The subprogram with highest priority is:

- a. Wood production.
  1. natural regeneration methods,
  2. artificial reforestation,
  3. management and protection of natural forest stands,
  4. village plantations, and
  5. green belts around urban areas.

Subprograms with lesser priority are:

- b. Integrated Farm-Forest-Forage Operations.
  1. preventive measures (pasture management, installation of wind breaks in agriculture areas, gaining popular acceptance on non-erosive methods of working the soil, creation of wood supplies around villages, plant-fire belts around the forests, etc.)
  2. taking direct measures to control erosion phenomena (control of brush fires, fixation of dunes, flood prevention, etc.)
  3. actions to restore the environment, such as reforestation, restoring vegetative cover for temporary protection or by planting)
- c. Conservation and Utilization of Wildlife.
  1. In the Sahelian zone:
    - restore populations of wildlife and their habitats,
    - inventory and manage desert species, and
    - plan, establish and manage protected zones.

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1. Club des Amis du Sahel, Team for Ecology and Environment, Committee's "Forest Strategy in the Sahel".

2. In the Sudan zone:
  - preparation of management plans and their execution,
  - pilot projects for production of meat from game animals,
  - improvement of tourism based on wildlife, and
  - these projects will satisfy food needs of rural communities.

d. Coordinated Education and Forestry Training.

The Working group has proposed projects in each of the subprogram areas.

a. Wood Production.

Based on working group projections, the demand for wood, both urban and rural, in 1990 will be 4,142,000 cubic meters (cm). Production in 1975 was 8,028,000 cm leaving a surplus of 3,886,000 in 1990. The first generation projects are presented in Table C7. These projects will result in a total production of 10,000,000 cm resulting in a surplus of 3,896,000 cm by 1990.

TABLE C7

PROJECTS PROPOSED IN THE WOOD PRODUCTION SUBPROGRAM

<u>Project</u>	<u>COST</u>	<u>Annual Planned Production 1000 Cubic Meters</u>
Management and Exploitation of Large Forest in the N'Djamena Region	\$366,000	4
Management de la Roneraie de n'Gam	\$180,000	-
Management of Forest in the Assale	\$344,000	5
Village Plantations and Creation of 4 Tree Nurseries at Mao, Massakory, Atti and Abeche <u>1/</u>	\$260,000	1

1. Project in Integrated Farm-Forest-Forage Operations subprogram.

SOURCE: Club des Amis du Sahel, Team for Ecology and Environment, Committee's "Forest Strategy in the Sahel", annex 1.

- b. Integrated Farm-Forest-Forage Operations. The projects are presented in Table C8.
- c. Conservation and Utilization of Wildlife. The projects are presented in Table C8.
- d. Coordinated Education and Forestry Training. The projects are presented in Table C8.

TABLE C8

PROJECTS PROPOSED IN INTEGRATED FARM-FOREST-FORAGE OPERATIONS,  
CONSERVATION AND UTILIZATION OF WILDLIFE, AND COORDINATED EDUCATION  
AND FORESTRY TRAINING SUBPROGRAMS

<u>PROJECT</u>	<u>COST</u>
<u>Integrated Operations</u>	
Establishment of the Natural Gum Species at Karal-Tourba	\$ 260,000
<u>Conservation and Utilization of Wildlife</u>	
Conservation and Establishment of the Antelope Population in the Sub-desert Zone	\$4,871,000
<u>Coordinated Training and Education of Foresters</u>	
Creation of a Center for Training and of Forest Retraining at N'Djamena	\$ 759,000

SOURCE: Club des Amis du Sahel, Team for Ecology and Environment, Committee's "Forest Strategy in the Sahel", annex 1.

Underdeveloped Transportation Network

1. The U.S. Strategy:

The Mission and government have identified 5 important road links in need of funding. The Mission has not submitted PID's due to the financial magnitude for intervention and other donors will need to be identified. The road links are, in order of priority, as follows: 1/

- First Priority: Moundou-Gidjiba, 500 kilometers, \$52 million.
- Second Priority: Bongor,Lai, \$60 million.
- Third Priority: Djermaya-Djimtillo.
- Fourth Priority: Massaguet-Bol-Mao.
- Fifth Priority: Gounou-Gaya-Kelo, \$4 million.

2. The Club Strategy:

The road network of Chad is 7,258 kilometers. The project suggested by the Club Transport and Infrastructure Working Group for 1977 to 1982 is: 1/

1. Club des Amis du Sahel, Groupe Transports et Infrastructure, Rapport de Synthese, May, 1977.

a. Rehabilitation. There are 556 kilometers in need of rehabilitation. Funding proposed is \$560,000. Routes in special need are:

Massaguet/Bir Garat	106 kilometers
Massaguet/Karme	53
Abeche/Bitine	92
Chagoua/Linia	30

b. Maintenance. The government now maintains about 46 percent of the road network, or 3,343 kilometers. The goal is to increase this maintenance to 54 percent, or 3,974 kilometers. \$13.72 million.

c. Purchase of material and equipment. \$5.64 million.

d. Training and Technical Assistance. \$2.68 million.

e. Amortization. \$3.87 million.

f. Establishment of workshops. \$4.32 million.

## Poor Health

### 1. The U.S. Strategy:

There is one project and a proposed project:

- a. Rural Health Planning and Management Project. The purpose is to develop a planning capacity within the Division of Plans, Studies, and International Relations of the Ministry of Health. AID contributions will be technical assistance, training for counterpart planners and administrative personnel, and office furniture, equipment, etc. The project is from FY1977 to 1980 with funding for \$1,692,700. 1/
- b. Proposed Chad Element to Club du Sahel Health Program. The purpose is to institute a low-cost rural health deliver system. The primary element is the organization of a village health committee of village elders and selection of two village agents. These agents are a village health worker (VHW) and a midwife. The donor funding is estimated to be \$4,250,000. 2/

### 2. The Club Strategy:

The Club Health and Nutrition Working Group has proposed a health care delivery system, Village-Based Health System. 3/ The system is designed for the average Sahelian country or five geographical levels: Village, arrondissement, cercle, regional, and national. The responsibilities for each level are:

- a. Village. At the village level basic health services are provided by village health workers (VHW) who are chosen by village residents and live in the village. Basic health services include nutrition education, simple hygiene, organizations for immunization teams, simple curative measures, etc. They also provide primary data collection sources.
- b. Arrondissement. These are the bases for nurse or auxiliary visits to villages. A center for data collection, immunization campaign scheduling, and training of VHW's.
- c. Cercle. Center for nurse, midwife, and MD visits to arrondissements and villages. Responsibility for immunization and categorical disease control. Collation of data for transmittal to national level.
- d. Region. Coordination of supervision at peripheral levels. Hospitalization referral when possible. Regional health plan development, implementation, and evaluation.
- e. National. Development of national treatment guide and formulary research on traditional medicine. National manpower policy and planning formulation. Training of MD's, senior nurses, and midwives.

- 
1. AID, Rural Health Planning and Management, Project Paper, November, 1976.
  2. AID, Chad FY79 ABS, June, 1977, annex C.
  3. Joseph S. and Scheyer, S., A Strategy for Health as a Component of the Sahel Development Program, May, 1977.

Major components of such a strategy involve:

- a. Nutrition. Emphasis must be placed on improvements of nutritional status of population, especially mothers and infants.
- b. Village Water. The first priority is to make available an adequate quantity of water for village consumption needs. Second, villagers must be educated as to the importance of making water supplies safe.
- c. Environmental Sanitation. There must be village participation in establishment of sanitation systems to insure proper use and adequate maintenance. Simple technologies can be utilized and there is need for further research.
- d. Communicable Disease Control. Health risks to the population can be significantly controlled by regional or area approaches. A CILSS Club plan should be developed in cooperation with the World Health Organization.

There are no specific Club projects designed yet, although there are Sahel Regional Programs developed for demographic data and rural health for FY 78 and 79 respectively in the PID stage. Current donor projects are presented in annex B.

## Population Growth

### 1. The U.S. Strategy:

There is no AID family planning project. The rural health projects envisage family planning components. 1/ The Rural Health Planning and Management project is gathering demographic data.

### 2. The Club Strategy:

The Club views the perceptible reduction of infant mortality as crucial to the acceptance of family planning. The need for demographic data, to improve development planning, is recognized as an important objective.

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1. AID, Chad FY79 ABS, June, 1977, p. c-3.

## ISSUES

Candidate issues to be discussed:

- a. AID projects generally do not have objectives beyond the early 1980's. Due to the momentum of population growth and the long delays involved in bringing about change, should AID projects be planned over a longer time horizon? How?
- b. Some AID projects in Table C3 have no quantified goals. Can the Field provide judgemental estimates of quantified goals? If not, how can project reviewers judge whether funding is too little or too high; whether the project will have an effect or not?
- c. Figure C5 shows a widening gap between total cereal demand and planned production. Either total cereal supplies will fall or Chad's foreign exchange deficit will widen. Is a disaster on its way? Can the proposed development investment be effective? Are AID projects sufficiently large enough and in the appropriate sector to have a significant effect?
- d. Figure C6 shows the relationship between Club livestock goals and consumption trends. Are the club goals for livestock production realistic? What are the constraints which may decrease the chances for achievement of these goals? Have AID and club strategies been adequate to alleviate these constraints?
- e. Figures C5 and C6 are based on the data presented in annex C. What is the Field's opinion of the accuracy of this data? Is it good enough for such planning purposes? If not, is the effect of current donor efforts unknown? How could better data be collected? Can the Field draw on the Figures their production forecasts?
- f. How much and what kind of rural participation is needed in planning a development project? Will a project only be successful if farmers participate in the planning and management of a project?
- g. Figure C6 indicated beef production as the major livestock indicator. Are other variables more important (i.e., animal stocks, herder income, milk production, etc.)?
- h. The Club gives an estimate of training needs for rainfed irrigated and development. What is the Field estimate of need for trained personnel by level, by decade, for rainfed crop, irrigated crop, and livestock development? Are AID, other donor, and proposed Club training projects adequate to fill this need? If the need is not filled, what will be the quantitative effect on the achievement of project goals, as shown in Figures C5 and C6?
- i. Can the Field chart and describe the major institutions for training and education? What is the typical flow of students from elementary schools to jobs, specifically as far as jobs in development activities are concerned? What are the number of students that flow between each institution? Can the donor program to support each institution be described? How do the AID projects affect specific institutions?

- j. The Club Ecology Working Group concentrated on wood production projects. Group projections indicate a serious shortfall in wood production. What can AID do now to increase wood production?
- k. Given the CRED report on the desirability of promoting private grain traders, how can AID projects either: (1) assist private traders, or (2) not discourage private traders?
- l. Given the Club Transport Working Group's discussion of development for road system, can AID assist further?
- m. How should AID promote family planning programs to the government (e.g., demographic studies as a means to open doors to family planning programs; inserting family planning components into health projects; etc.)? Considering the delays involved in slowing population growth, shouldn't the Field take a more active role in this field?
- n. The maintenance and operating costs, as well as depreciation costs, of irrigated crop hectares are generally high. Can the field give a judgemental quantification of these costs and the ability of irrigated crop farmers to pay them? If costs are higher than farmer's ability to pay, who should pay the difference and how?
- o. As far as other donor strategies are concerned, (for example annex ) is the AID strategy similar or different in terms of sectorial funding (i.e., percentage of donor's total investment by Club working group sector)? A judgemental quantification is adequate.
- p. What is the Field's judgemental quantification of total recurrent costs per year for their planned projects? How can AID projects include in their initial analysis a projection of the future government and private revenues allocated to pay recurrent costs?
- q. Can the Field chart and describe the major Chad institutional structures that are crucial to development? Can the donor program to support each be described? How does each AID program affect specific components of the structure? Is more support needed for other institutional structures or a central planning authority?
- r. What are the Field's recommendations for government economic policy on agricultural input subsidies, prices to farmers, import duties, etc.? If these recommendations would cause a change in existing government policy, how can AID influence such a change (e.g., persuasion, increase economic training for government decision makers, etc.)?

## **ANNEX**

## ANNEX A

## UN PROJECTS FOR CHAD

<u>Project number and title</u>	<u>Executing agency</u>	<u>Date approved</u>	<u>Estimated completion date</u>	<u>Estimated project cost (US dollar equivalent)</u>	
				<u>UNDP</u>	<u>Government counterpart contribution</u>
<u>AGRICULTURE, FORESTRY AND FISHERIES (0500)</u>				<u>1,527,063</u>	<u>481,640</u>
VEGETABLE PRODUCTION	FAO	02/70	01/76	204,728	84,992
DIRECTION DU SERVICE DES PARCS NATIONAUX ET DES RESERVES DE FAUNE	FAO	01/70	01/77	198,506	
POULTRY PRODUCTION	FAO	04/70	01/76	154,215	22,929
REBOISEMENT	FAO	09/71	09/77	119,189	201,612
UNITE DE DEVELOPPEMENT DE L'ELEVAGE	FAO	03/73	01/78	518,381	74,334
DEVELOPMENT OF THE SATEGUI-DERESSIA	FAO	01/73	01/74	2,667	
ETUDE SECTORIELLE AGRICOLE	FAO	09/74	01/76	40,388	
MODERNISATION DES TECHNIQUES DE PECHE	FAO	01/75	01/79	184,651	10,887
AGRO-ECONOMISTE	FAO	02/75	09/76	6,000	
STOCK DE RESERVE DE CEREALES	FAO	06/75	01/77	40,338	65,725
AMENAGEMENT ET EXPLOITATION DE LA VEGETATION FORESTIERE DANS LA REGION DE N'DJAMENA	FAO	09/76	01/77	58,000	20,161
				<u>8,587</u>	
<u>CULTURE AND SOCIAL AND HUMAN SCIENCES (1000)</u>					
BOURSE DE PERFECTIONNEMENT EN RELATIONS INTERNATIONALES	UN	01/75	01/77	8,587	
				<u>2,129,303</u>	<u>1,906,196</u>
<u>EDUCATION (1500)</u>					
PRIMARY SCHOOL TEACHER TRAINING (FORT LAMY)	UNESCO	01/69	01/78	1,813,263	1,096,330
BOURSE DE FORMATION EN PLANIFICATION DE L'EDUCATION	UNESCO	01/75	01/77	8,413	
ASSISTANCE A L'INSTITUT NATIONAL DES SCIENCES DE L'EDUCATION (INSE) POUR LA REFORME DE L'ENSEIGNEMENT ELEPENTAIRE	UNESCO	08/76	03/78	213,300	9,866
FOURNITURES SCOLAIRES	UNDP	08/75	01/77	94,307	
				<u>2,186,782</u>	<u>164,292</u>
<u>GENERAL ECONOMIC AND SOCIAL POLICY AND PLANNING (2000)</u>					
ECONOMIC PLANNING TEAM	UN	03/69	01/78	635,749	163,814
APPUI LOGISTIQUE DU PNUD AU TCHAD	UNDP	03/77	01/78	90,000	
APPUI LOGISTIQUE DU PNUD AU TCHAD	UNDP	07/74	07/77	244,837	

## ANNEX A Continued

<u>Project number and title</u>	<u>Executing agency</u>	<u>Date approved</u>	<u>Estimated completion date</u>	<u>Estimated project cost (US dollar equivalent)</u>	
				<u>UNDP</u>	<u>Government counterpart contribution</u>
DEVELOPPEMENT RURAL DU OUADDAI (ABEBE) PHASE II	ILO	09/74	01/76	348,000	478
REINFORCEMENT DES SERVICES DE PLANIFICATION ECONOMIQUE ET SOCIALE	UN	03/75	01/78	273,292	
REINFORCEMENT DES SERVICES DE PLANIFICATION ECONOMIQUE ET SOCIALE	UN	08/76	01/77	173,500	
ASSISTANCE AU BUREAU D'ETUDES ET DE PROGRAMMATION	FAO	07/77	01/82	298,025	
ASSISTANCE AU BUREAU D'ETUDES ET DE PROGRAMMATION	FAO	07/77	01/78	35,931	
DEVELOPPEMENT RURAL DU QUADCAI	UN	07/76	01/77	52,000	
ASSISTANCE DE VOLONTAIRES DES NATIONS UNIES AU TCHAD	UNDP	02/76	02/79	35,448	
				<u>355,440</u>	<u>          </u>
<u>HEALTH (2500)</u>					
ENVIRONMENTAL HEALTH	WHO	11/68	12/79	355,440	
				<u>3,434,103</u>	<u>570,837</u>
<u>INDUSTRY (3500)</u>					
EXPLOITATION OF KAKITE	UNIDO	11/71	01/76	40,154	
VEGETABLE OIL TECHNOLOGY	UNIDO	01/70	05/72	14,040	
RECHERCHES MINIERES ET FORMATION DU SERVICE GEOLOGIQUE	UN	11/72	01/78	1,357,511	264,669
COMMERCIALISATION ET STABILISATION DES PRIX DES CEREALES	FAO	01/73	01/76	79,061	103,629
CREATION D'UN BUREAU DE PROMOTION INDUSTRIELLE A FORT LANY	UNIDO	09/73	01/79	596,950	69,838
FEASIBILITY STUDY FOR THE ESTABLISHMENT OF BISCUIT PRODUCING INDUSTRY	UNIDO	09/70	01/74	387	
ANIMATION DU BUREAU DE PROMOTION INDUSTRIELLE DU TCHAD	UNIDO	07/77	01/82	1,340,000	192,701
				<u>160,000</u>	<u>717,000</u>
<u>INTERNATIONAL TRADE (4000)</u>					
ASSISTANCE EN MATIERE D'ASSURANCES	UNCTAU	03/77	01/80	160,000	717,000

## ANNEX A Continued

<u>Project number and title</u>	<u>Executing agency</u>	<u>Date approved</u>	<u>Estimated completion date</u>	<u>Estimated project cost (US dollar equivalent)</u>	
				<u>UNDP</u>	<u>Government counterpart contribution</u>
<b><u>LABOUR, MANAGEMENT AND EMPLOYMENT (4500)</u></b>				<u>177,229</u>	<u>          </u>
PUBLIC ADMINISTRATION AND LABOUR	ILO	10/71	01/78	38,029	
BOURSE DE STAGE A L'INSTITUT AFRICAIN DES ASSURANCES DE TUNIS	UN	02/75	07/75	1,200	
BOURSES COMPLEMENTAIRES DE FORMATION	UNDP	08/76	01/81	138,000	
<b><u>NATURAL RESOURCES (5000)</u></b>				<u>596,813</u>	<u>260,629</u>
APPROVISIONNEMENT EN EAU DES ZONES RURALES	UN	12/72	01/78	596,813	260,629
<b><u>RELIEF ACTIVITIES (6000)</u></b>				<u>556,628</u>	<u>          </u>
SAHEL DROUGHT EMERGENCY AND MID TERM GROUNDWATER ASSISTANCE	UN	12/73	01/78	556,628	
<b><u>SOCIAL SECURITY AND OTHER SOCIAL SERVICES (7000)</u></b>				<u>558,512</u>	<u>71,733</u>
INSTAURATION DU SERVICE DE L'HABITAT, DE L'URBANISME ET DE L'ENVIRONNEMENT	UN	02/77	01/80	44,138	
CENTRE D'EXPERIMENTATION ET D'ANIMATION POUR L'HABITAT	UN	09/74	01/80	88,780	
CONSTRUCTIONS SCOLAIRES EN ZONES RURALES	UN	07/75	01/78	423,702	71,733
ETUDE DE LA MISE EN PLACE D'UNE SOCIETE NATIONALE D'ASSURANCES ET DE REASSURANCES	UNCTAD	08/76	10/76	1,900	
<b><u>TRANSPORT AND COMMUNICATIONS (7500)</u></b>				<u>1,367,714</u>	<u>334,394</u>
TELECOMMUNICATION TRAINING	ITU	11/68	01/78	360,959	
DEVELOPPEMENT DES TELECOMMUNICATIONS	ITU	09/74	01/79	266,650	68,104
BOURSES POUR LA FORMATION DE L'ECOLE AFRICAINE ET MALGACHE D'AVIATICK CIVILE A'NIAMEY (NIGER)	ICAO	09/74	01/77	11,579	
ECOLE NATIONALE DES TELECOMMUNICATIONS DE SARH	ITU	10/76	01/81	478,950	266,290
ECOLE NATIONALE DES TELECOMMUNICATIONS DE SIRH	ITU	10/76	09/79	250,000	
<b>TOTAL</b>				<b>13,058,174</b>	<b>4,506,721</b>

## ANNEX B

## HEALTH PROJECTS IN CHAD

<u>Project/Activity</u>	<u>Donor Agency or Country</u>	<u>Total Amount (\$US)</u>	<u>Other Information</u>
Basic health services development	WHO		1964-present: Continuing assistance in various aspects of health services development
Aid to health	FAC	340,000	
<u>NATIONAL HEALTH PLANNING/ LEGISLATION</u>			
Health statistics development	WHO		
<u>URBAN HEALTH SERVICES</u>			
Town water supply	EEC	11,940,000	
<u>RURAL HEALTH SERVICES</u>			
Rural health planning	USAID	669,000	FY 1977
Primary health care	ONG	120,000	
Construction - 5 rural dispensaries	CARE		
Medical materials	Lion's Club Djamena	36,000	
Environmental sanitation	UNDP	1,000,000	
Medications, equipment	UNED	600,000	
Water evaluation	BAD	20,000	
Rural centers-equipment, supplies	UNICEF	220,000	
Nutrition: feeding program, schools and medical centers	PAM		
<u>MANPOWER</u>			
Personnel training, fellowships	WHO		
Health training facility modernization	FED		
Medical personnel & logistics support	France		
20 Physicians	URSS		
2 Physicians	Switzerland		
Nursing training	EEC		
<u>DISEASE CONTROL</u>			
Smallpox eradication	WHO		1968 - present
Epidemiological surveillance	WHO		

## ANNEX C

TABLE C-1  
CROP PRODUCTION IN CHAD

	Total Chad								
	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72
Millet & Sorghum	895	700	614	630	646	661	651	610	672
Paddy Rice				37	32	32	37	40	79
Wheat	4	4	1	5	5	6	7	6	7

SOURCES: 1963/64-1971/72, Republique du Tchad, Direction de la Statistique, Annuaire Statistique du Tchad, 1974.  
1972/73-1975/76 (except wheat, rice), Banque Centrale.  
1972/73-1975/76 (Wheat production), Republique du Tchad, Direction de l'Agriculture, L'Agriculture et l'Elevage au Tchad, 1976.

TABLE C-2

BEEF PRODUCTION AND CONSUMPTION IN CHAD 1/

Thousand Metric Tons

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<u>YEAR</u>	<u>CONSUMPTION</u> <u>2/</u>	<u>PRODUCTION</u> <u>3/</u>
1971	34	54
1972	25	49
1973	33	62
1974	29	57
1975	32	64

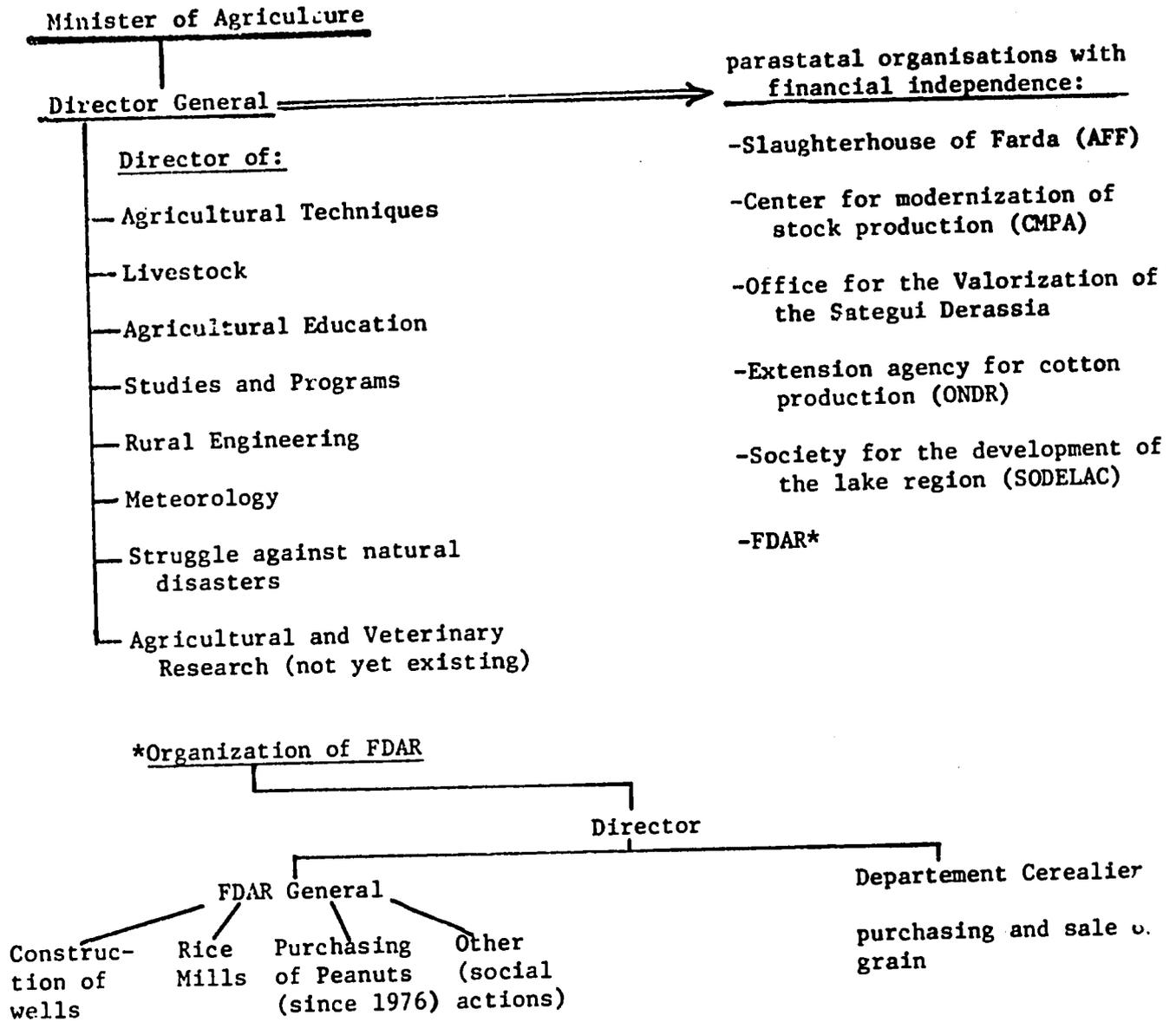
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1. Dressed carcass weight.
2. All meat slaughtered within national boundaries.
3. Includes meat equivalent of exported live animals.

SOURCE: FAO, Production Yearbook, 1973, 1975.

ANNEX D

Organization of the Ministry of Agriculture 1/



1. Taken from CRED, Marketing, Price Policy and Storage of Cereals in the Sahel, CRED Study.

## ANNEX E

## OFFICIAL DEVELOPMENT ASSISTANCE BY SECTOR

Millions of Dollars		1974							1975				Partial 1976			
Category of Commitment	Grants Done	TC AT 1/	Loans Prêts	TOTAL	Grants Done	TC AT 1/	Loans Prêts	TOTAL	Grants Done	TC AT 1/	Loans Prêts	TOTAL				
Sector of Destination																
<b>1. Multisector Rural Development Activities</b>	3.28	1.67		3.28	7.03	2.39	5.00	12.03	2.91	.92	12.00	14.91				
1.1. Large-scale integrated projects	1.23	.10		1.33	3.68	.30			1.40			1.40				
1.2. River development schemes																
1.3. Other (see)	2.05	1.57		2.05	3.35	2.09	5.00		1.51	.92	12.00	13.51				
<b>2. Agriculture</b>	5.37	.20	7.50	12.87	7.14	1.78	5.00	12.14	7.93	1.44	17.39	25.32				
2.1. Crop production - irrigated*	1.15		7.50	8.65			5.00	5.00	1.38	.06	17.39	18.77				
2.2. Crop production - Dry farming and undefined	1.35			1.35	4.64	.13		4.64	4.12			4.12				
2.3. Livestock	2.81	.20		2.81	1.78	1.55		1.78	1.70	1.31		3.70				
2.4. Forestry and Reforestation					.10	.10		.10	.44	.07		.44				
2.5. Fisheries																
2.6. Agricultural institutions, services and training	.06			.06	.62			.62	.29			.29				
2.7. Unspecified																
<b>3. Water Resources</b>	1.68	.40		1.68	17.54	1.21		17.54	.06	.02		.06				
3.1. Rural Water Supply**	1.56	.40		1.56	4.02	.40		.40								
3.2. Urban Water Supply					13.52	.81		.81	.02	.02		.02				
3.3. Large-scale multi-purpose dam projects									.04			.04				
3.4. Services, training																
3.5. Unapooled	.12			.12												

\* See also 3.1  
\*\* See also 2.1

1. Technical Assistance Component of Grants.

Category of Commitment Sector of Destination	1974				1975				Partial 1976			
	Grants Done	TC AC 1/	Loans Prêts	TOTAL	Grants Done	TC AC 1/	Loans Prêts	TOTAL	Grants Done	TC AC 1/	Loans Prêts	TOTAL
	4. Transportation and Infrastructure	2.78	.74	3.50	6.28	3.58	1.31		3.58	0.17	.68	5.55
4.1. Rural roads	.36			.36	.22			.22	2.99			2.99
4.2. Primary roads	.94		3.50	4.44	.89			.89	1.26			1.26
4.3. Roads: maintenance, services and training	.66	.02		.66	.97			.97				
4.4. Rail, Water, Air Transportation	.10			.10					.85			.85
4.5. Communications					.20	.20		.20	2.39			2.39
4.6. Energy												
4.7. Meteorology												
4.8. Unspecified	.72	.72		.72	1.30	1.11		1.30	.68	.68	5.55	6.23
5. Education and Human Resources	7.43	6.33		7.43	12.10	8.86		12.10	9.01	7.30		9.01
5.1. Primary and secondary	.11	.11		.11	2.62			2.62	.99			.99
5.2. University and higher technical	1.27	.44		1.27	.75	.74		.75				
5.3. Non formal education												
5.4. Teacher training	.30	.30		.30	.57	.57		.57	.90	.70		.90
5.5. Vocational and technical									.57	.08		.57
5.6. Cultural activities	.13	.13		.13	.20	.17		.20	.10	.10		.10
5.7. Unspecified	5.62	5.35		5.62	7.96	7.38		7.96	6.45	6.42		6.45
6. Health, Nutrition and Social Infrastructure	1.75	1.17		1.75	4.06	1.83		4.06	2.09	1.42		2.09
6.1. Rural health services	.55			.55	.28	.03		.28	.25			.25
6.2. Urban health services	.01	.01		.01	1.90	.22		1.90	.42			.42
6.3. Nutrition												
6.4. Demography, family planning												
6.5. Community development, community facilities												
6.6. Housing					.10	.10		.10				
6.7. Unspecified	1.19	1.16		1.19	1.78	1.48		1.78	1.42	1.42		1.42

1. Technical Assistance Component of Grants.

Sector of Destination	1974				1975				Partial 1976			
	Grants Done	TC AC (1)	Loans Prêts	TOTAL	Grants Done	TC AC (1)	Loans Prêts	TOTAL	Grants Done	TC AC (1)	Loans Prêts	TOTAL
7. Industry and Tourism	.89	.39	.79		.79	.70	4.90	5.69	.14	.08	29.79	29.93
7.1. Mining	.20	.20			.40	.40		.40			2.22	2.22
7.2. Manufacturing	.10	.10	.79	.09	.20	.20	4.90	5.10			27.57	27.61
7.3. Agro-Industry	.09	.09		.09	.07			.07	.04			
7.4. Construction				.50				.02				.02
7.5. Tourism	.50				.02			.02	.02			.02
7.6. Unspecified					.10	.10		.10	.08	.08		.08
8. Activities non allocable by sector	5.87	1.40		5.87	3.19	2.08		3.19	13.41	3.07		13.41
8.1. Planning and administration	1.57	.15		1.57	.41	.41		.41	.11	.11		.11
8.2. Import financing	2.00			2.00	1.00			1.00				
8.3. Balance of payments assistance								.01	10.34			10.34
8.4. Budget subsidy	1.05			1.05	.01			.01				
8.5. Debt reorganization					1.67	1.67		1.67	2.96	2.96		2.96
8.6. Research (nse)	1.25	1.25		1.25	.10			.10				
8.7. Other								3.64	3.06			3.06
9. Emergency Aid	13.71			13.71	3.64			.82	3.06			3.06
9.1. Food aid	8.22			8.22	.82							
9.2. Transport and storage Cereals	3.77			3.77	.53			.53				
9.3. Livestock (reconstitution)								2.29				
9.4. Non-food aid	.49			.49	2.29							
9.5. Multipurpose activities	1.23			1.23								
10. Unspecified development assistance	17.95	4.26		17.95	6.94	4.96	9.22	16.93	6.97	3.67		6.97
TOTAL	60.71	16.56	11.79	72.50	66.01	25.12	24.89	90.90	53.75	10.60	64.73	110.48

1. Technical Assistance Component of Grants.