

**AGENCY FOR
INTERNATIONAL
DEVELOPMENT**



**ANNUAL BUDGET SUBMISSION
FY 1979**

USAID SENEGAL

BEST AVAILABLE

**DEPARTMENT
OF
STATE**

JUNE 1977



FY 1979

ANNUAL BUDGET SUBMISSION

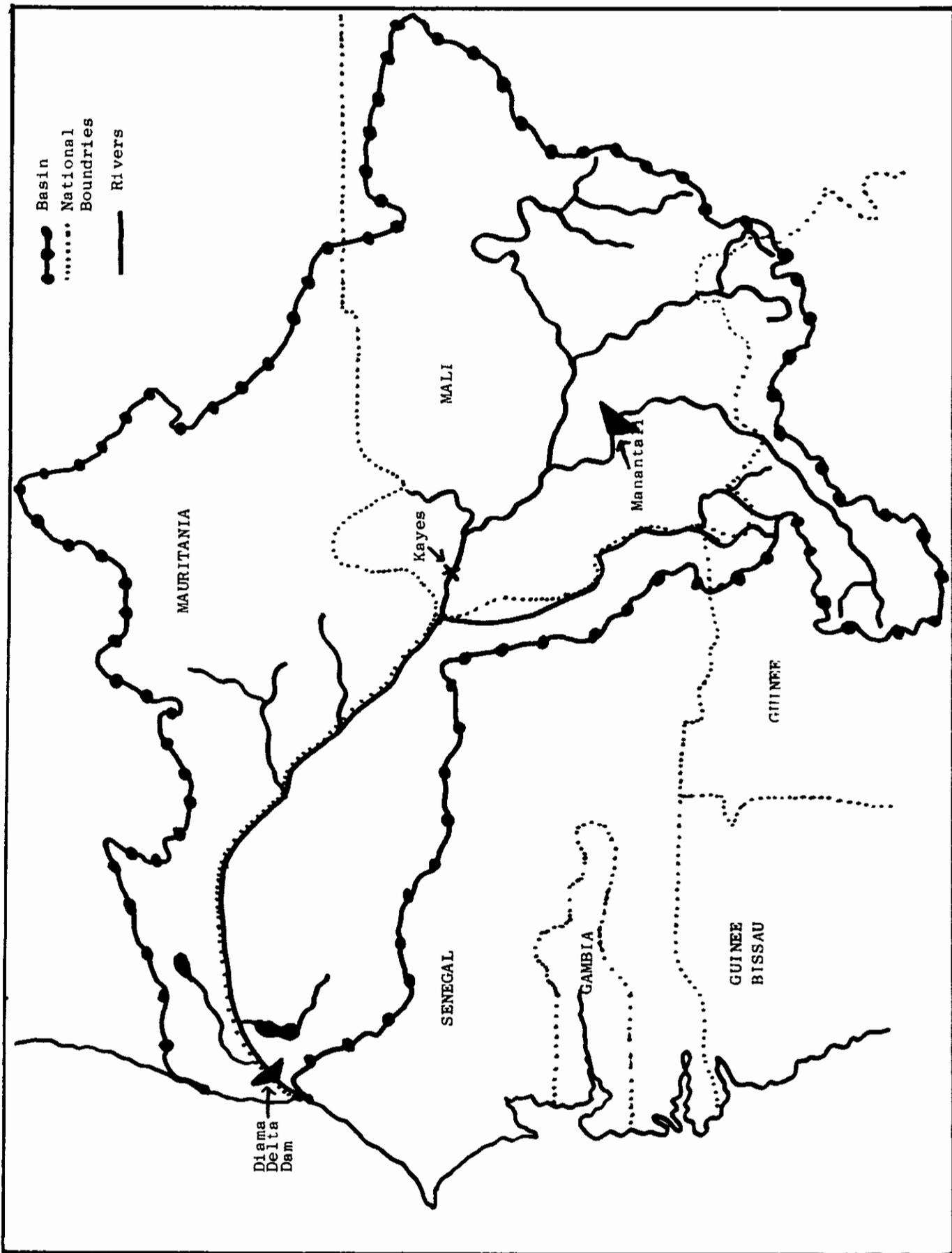
SENEGAL

June, 1977

FY 1979 Annual Budget Submission

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A. Summary Narrative Statement

Background and Status

Mali, Mauritania and Senegal established OMVS (and its predecessor agencies) to develop and manage their common resources in the Senegal River Basin and to coordinate development activities planned and operated directly by the national services of the Member States. The Governments have declared the Senegal River an international waterway, and all of the development facilities are to be jointly owned. Within OMVS a Permanent Commission has been established for controlling programs affecting quality, characteristics and use of the River's waters.

OMVS objectives - projected for accomplishment through the year 2012 - include water impoundment programs for development of some 400,000 hectares of irrigated agriculture, exploitation of hydro-electric energy potential for mining and other industrial needs, and improvement of the Senegal River as a navigable waterway from Kayes in landlocked Mali a thousand kilometers downstream to the River's outlet at the Atlantic Ocean. The specific program for the next 40 years is to include:

- a hydro-electric regulating dam at Manantali, Mali;
- a salt water control and irrigation dam at Diama, Senegal;
- construction of ports at Saint-Louis, Senegal, and Kayes, Mali, plus ports of call in between these towns; and
- improvement of the river channel for making it navigable by shallow draft barges (approximately 1.5 meters).

Because a primary purpose of water impoundment programs is an assured supply of water for irrigated agriculture, OMVS is also sponsoring studies (agronomic, socio-economic, etc.) to optimize water use and develop a sound economic rationale for its infrastructure investments.

After decades of data gathering and planning (the OMVS Documentation Center at Saint-Louis has over 10,000 titles in its collection), OMVS has recently moved rapidly to begin its capital construction phase. Thanks largely to French aid, engineering studies for the Diama Dam are well under way and scheduled for completion by October 1977. Construction is expected to begin in early 1978 and to last for 3 years.

Germany is financing studies for the Manantali Dam and aspects related to river navigation. All of the technical data has been updated through March 1977. Engineering studies are to begin in January 1978 with construction initiated about one year later and expected to take about 5 years.

Canada has indicated an interest in port development, and OMVS plans to begin discussions on these features in 1978, after firm decisions have been made on Manantali's design, projected water releases, and anticipated River navigation.

In regard to construction financing OMVS has obtained significant commitments from France, Germany, Iran and Kuwait, and the Arab, Islamic, and African Development Banks. Their amounts and nature are detailed in the FY 78 ABS. It has become apparent, however, that unless the U.S. Government, IBRD and/or Arab sources provide supplementary funding, the Manantali Dam, at least, will not be built according to schedule. Recent cost estimates are \$120 million for Diama and \$280 million for Manantali, or a total of \$400 million. Against this sum OMVS has obtained commitments totalling about \$200 million. Compared with amounts published by OMVS only a year ago, current construction estimates are twice that listed for Diama, and a third more for Manantali. These reflect both inflationary trends and more realistic estimates based on current data and initial design plans. As a consequence, in early June 1977, the OMVS High Commissioner began a pilgrimage to major donor capitals to solicit more money. The results are not yet known.

In contrast, OMVS has had more offers of technical assistance than it has been able to digest comfortably. The UN is financing several experts; UNDP with IBRD as executing agency is prepared to finance studies and expertise; both Germany and France have seconded personnel to OMVS; and the Italians and British have been seeking ways of being helpful. To date, however, OMVS is still a very small organization with less than 30 technical and professional personnel, including 6 expatriates, and a matching budget which for 1977 will barely reach \$170,000. In preference to building up a large and costly institution, possibly dominated by expatriate technicians, the High Commissioner has preferred using international engineering firms for major design work, and ad hoc expertise to complement OMVS in-house staff competence. Thus, OMVS has been able to retain its "African identity", and the Member Governments are assured that policy and management are responsive to their direction.

While this may be precisely what the OMVS States desire, it has had a decidedly negative aspect vis-à-vis some donors. It has precluded consideration of any construction alternatives to the

Manantali-Diama axis; it has inhibited OMVS's absorptive capacity for desirable and necessary technical assistance; and it has given donors a well-justified feeling that OMVS is making irreversible decisions without the benefit of (or regard for) donor views. Although OMVS has publicly recognized the need for an Advisory Committee on Coordination composed of OMVS representatives and financial supporters, since the last Donors' Conference in July 1976, there has been no apparent effort to establish such a committee. It seems likely that a more systematic mechanism for coordination and a greater receptivity to critical analysis will develop only after (and if) it becomes clear to OMVS that these are prerequisites to obtaining sufficient construction financing.

The next 12 to 18 months will be especially critical in this regard, because during this period final engineering studies will have been completed and GO! NO GO! decisions made. Given the escalation in cost estimates, donor qualms over not being more intimately involved in OMVS decision-making, and recent establishment of an increasingly formal Club-CILSS mechanism through which donors are to channel their Sahelian assistance, it is problematic as to whether OMVS can indeed maintain its construction program momentum.

AID Role and Strategy

The Congressional Mandate has limited AID's ability to provide financing for the major infrastructure program. In addition, some AID observers have voiced a concern that OMVS has moved with undue haste in defining its facilities program before reaching a consensus with donors on the adequacy and use of data. As a consequence, the AID program has been directed at two fronts:

- active support to strengthen OMVS planning and management competence, through financing and/or participation in studies, surveys, organizational development, etc.; and
- promotion of associated development activities in the overall Basin area or with Member Government agencies for programs which are mutually supportive.

Thus, for example, AID is financing directly with OMVS an agricultural research project, the production of current maps of the Basin, and establishment of a water data collection system. These will all help in the collection and analysis of planning and management data needed by OMVS as a River Basin development organization. In

addition, in support of the OMVS role in regional coordination cum development, AID is supporting bilateral projects, such as irrigated perimeter development in Senegal, SONADER support in Mauritania, and a regional road network improvement in Mali. Although none of these was sponsored directly by OMVS, each directly supports OMVS objectives, while concurrently demonstrating AID willingness to participate in the Basin's development to the fullest extent possible under current AID legislation.

This strategy has been eminently successful vis-à-vis OMVS. The High Commissioner and Member Government officials understand AID's constraints and applaud its positive interest and active support. But they still deplore AID's inability to make a financial contribution to the OMVS dam program. The recent nomination of a direct-hire River Basin engineer to the Coordinator's office in Dakar was especially appreciated and taken as further sign of USG seriousness of purpose. Nevertheless, OMVS correctly recognizes that without AID's imprimatur (evidenced by cash for construction), other donors, and perhaps even the Member States, may not be able to overcome the palling doubt over the wisdom of their infrastructure program and their ultimate ability to see it through successfully.

With this background in mind, and in an attempt to design a reasonable U.S. assistance posture vis-à-vis OMVS for the next 5 years, a set of assumptions has been formulated as a limiting framework for forward planning. These are as follows:

- OMVS will obtain sufficient financing to proceed with some or, perhaps, even all of its dam construction program;
- Implementation of these large dam construction programs could have widespread catastrophic effects unless concurrent actions are taken to ensure continuous data collection, analysis and feedback into operational programs;
- It is in the donor community's interest that the U.S. maintain a strong technical presence in the OMVS States as a guarantor against precipitous or injudicious program developments, and as an objective gadfly for raising the quality of decision-making;
- U.S. experience and expertise can be tapped to make necessary and acceptable inputs into OMVS plans and programs;

- Once dam construction gets underway, OMVS will become increasingly receptive to using expatriate advisors, and will be more concerned with integrated planning for development of the Basin as a coherent economic unit.

The above suggests program emphases similar to the existing strategy but with a growing focus on identifying regional needs and solutions, pursuant to both the OMVS mandate and the Member States' proclaimed goal of ultimate - if gradual - economic integration. Thus, with the exception of a proposed extension of the regional Agronomic Research Project for one year, the FY 1978 budget closely conforms to the FY 1978 ABS.

In FY 1979, only 3 new projects are to be initiated: a second stage Agronomic Research Program associated with Title XII objectives, a farmer cooperative pilot program based on the existing CUMA research activity in the Agronomic Research Project, and initiation of a rational transport network system needed to carry out the OMVS construction program and to support related developmental pursuits resulting therefrom.

During the FY 1980-1983 period, provision is made for programs anticipated to develop from needs already identified or which will become apparent as existing projects play out. The Environmental Assessment Project, for example, will assuredly result in a recommendation for an Aquatic Disease Control program. Also, a major expansion of the Cooperative (CUMA) program is envisaged (unless the Member States decide to implement such programs through their own Governmental agencies); and OMVS will have filled its staff vacancies and begun to concern itself with more systematic, Basin-wide planning, resulting in recourse to major assistance in total resources planning for regional development. Concurrent with these projected activities, will be the continuing Data and Institutional Development Project for strengthening OMVS as an organization and also giving it the financial support necessary to carry out the variety of technical studies recommended both by BuRec in its suggested Study Program of April 1976 and by the Sahel Task Force in its Proposal for a Long Term Comprehensive Program for the Sahel, submitted to the Congress in July 1976. In regard to technical assistance not already foreseen for technical studies nor expected from other donors, the High Commissioner has indicated an interest in U.S. expertise in financial management, operational efficiency, and English language translations and training.

Finally, funds are included in Fiscal Years 1982 and 1983 for energy production and distribution from the Manantali complex. This is predicated on the likelihood that by 1980 OMVS will indeed be able to secure at least those amounts needed for the basic dam

and access road, and that no major technical or legislative obstacles preclude such financing from AID. As noted in an earlier submission on a strategy for OMVS, AID has had a large - if not intimate - involvement in OMVS activities; and the USG forfeits much in not also sharing responsibility for mainstream as well as peripheral projects (however important these latter may be). It could appear imprudent, for example, for AID to pursue a vigorous role in Basin Development without having constant assurance throughout the planning and construction phases that major systems affecting all other activities are based on, or at least equal to U.S. standards and performance expectations. Without putting up an "ante" for construction, no hand will be dealt AID when the final deliberations are held. The ultimate decisions will be made without benefit of close and involved U.S. expertise; U.S. suppliers will have only limited access to one of the largest development programs in Africa. And the U.S. approach to helping small African farmers in the Sahel will follow neither patterns AID has already tried on every other continent nor the collective successful experience within the continental U.S.A.

Because the powerhouse and electric transmission system are integral aspects of the Manantali facilities, AID financing would open the way for donors to arrive at full agreement with OMVS on when and how to achieve its objectives. At the same time it would involve technological expertise in which the U.S. is preeminent; it would reduce the fossil fuel problem for these 3 Sahelian States; and it could lead directly to development of industrial opportunities in areas with economies tied almost completely to the vagaries of farming and fishing.

As regards Zero Based Budgeting, in determining the composition of each decision package for FY 1979 on Table V, two criteria have been applied: First, an estimate was made of the pipeline remaining in ongoing projects at the end of FY 1978. To the extent that this pipeline would suffice for the FY 1979 funding period, additional amounts were postponed until FY 1980 or later. Thus, they are not included in the Minimum Decision Package. Second, each project was divided into manageable components where feasible, so that only those inputs absolutely required in FY 1979 are included in the minimum and/or current decision package. For example, the total CUMA test program (project 628-0603) includes approximately 15 cooperatives plus supporting technical assistance. Total funding for all the cooperatives is included only in the proposed decision package. The minimum decision package reduces the funding level to six cooperatives, or two per country, and the current decision package level permits the addition of several more.

The implications for staff changes to plan and manage this program are slight. The OMVS Coordinator's Office presently has 4 authorized positions: COORDINATOR, PROGRAM OFFICER, ASSISTANT PROGRAM OFFICER, and RIVER BASIN ENGINEER, plus a local hire secretary. Additional secretarial/interpreter services are already necessary, and expansion of the agricultural program may require a full-time,

broad-gauged Food and Agriculture Officer toward the end of FY 1978. Once the essentially bilateral projects are approved (Matam, SONADER, Diagambal and Mali Feeder Roads) implementation responsibility will be shifted to the respective country AID missions. All other activities can be handled by the existing staff with occasional TDY consultants and REDSO supporting services.

B. Long Range Planning (FY 1979-FY 1983)1. Table I - Long Range Program Plan

Country/Program: OMVS - Senegal River Basin

	(\$ millions)					
	<u>1978</u>	<u>1979</u> <u>Request</u>	<u>1980</u>	<u>Planning Period</u>		
			<u>1981</u>	<u>1982</u>	<u>1983</u>	
Food/Nutrition						
Grants	5,494	-	-	-	-	-
Loans	-	16,100	-	-	-	-
Selected Development Problems						
Grants	-	500	-	-	-	-
Loans	-	-	-	-	-	-
Sub-total Functional Accounts						
Grants	5,494	500	-	-	-	-
Loans	-	16,100	-	-	-	-
Sahel Development Program						
Grants	21,620	20,869	21,156	47,200	59,130	56,000
Loans	-	-	-	-	-	-
Total OMVS Program						
Grants	27,114	21,369	21,156	47,200	59,130	56,000
Loans	-	16,100	-	-	-	-

Table Ia
Long Range Program Plan
(\$ millions)

	<u>1978</u>	<u>1979</u> <u>Request</u>	<u>Planning Period</u>			
			<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
- Rainfed Agriculture						
- Irrigated Agriculture	9,900	12,227	5,906	6,700	-	1,000
- Livestock						
- Fisheries						
- Human Resources	11,220	2,362	4,250	2,000	2,130	-
- Health	-	-	-	3,000	2,000	-
- Ecology	-	-	1,000	500	-	-
- Adoptive Technology						
- Transportation & Infrastructure	3,900	6,280	10,000	35,000	55,000	55,000
- Pricing, Marketing & Storage						

B.2. DAP Documentation Schedule ^{1/}

PROGRAM YEAR	DOCUMENTS TO BE USED AS BASIS FOR PROGRAM PLANNING	DATE APPROVED OR SENT TO AID/W
FY 1979	Original DAP	_____
	DAP Revision	_____
	Analytical Description of Poor Majority	_____
	Summary Strategy Statement	_____
	Sector Assessment (Specify): _____	_____
	Other (Specify): _____	_____
	FY 78 ABS	June 1976
FY 1980	Original DAP	_____
	DAP Revision	_____
	Analytical Description of Poor Majority	_____
	Summary Strategy Statement	_____
	Sector Assessment (Specify): _____	_____
	Other (Specify): _____	_____
FY 1981	Original DAP	_____
	DAP Revision	_____
	Analytical Description of Poor Majority	_____
	Summary Strategy Statement	_____
	Sector Assessment (Specify): _____	_____
	Other (Specify): _____	_____

^{1/} Required for FY 1979; optional for FY 1980 and FY 1981.

C. FY 1977-FY 1979 Programs1. Table II - Funding Levels for FY 1977, FY 1978, FY 1979

OMVS - Senegal River Basin

(in \$000)

	<u>FY 1977</u>	<u>FY 1978</u>	<u>FY 1979</u>
Food/Nutrition			
Grants	300	5,494	-
Loans	-	-	16,100
Selected Development Activities			
Grants	446	-	500
Loans	-	-	-
Sub-total Functional Accounts			
Grants	746	5,494	500
Loans	-	-	16,100
Sahel Development Program			
Grants	-	21,620	20,869
Loans	-	-	-
Total OMVS Program	746	27,114	37,469

AGENCY FOR INTERNATIONAL DEVELOPMENT		1. TRANSACTION CODE					2. ABS/CP				
ABS/CP SUMMARY - TABLE III		A A = ADD C = CHANGE D = DELETE					DOCUMENT CODE 6				
3. COUNTRY/ENTITY		4. DOCUMENT REVISION NO.	5. OPERATIONAL YEAR FY		6. BUREAU/OFFICE		7. GEOGRAPHIC CODE				
OMVS - Senegal River Basin			7 8		A. SYMBOL AFR		D. CODE [06]		[628]		
8. TYPE DATA					9. TYPE ASSISTANCE						
1 1 = ABS 3 = CP 2 = ABS REVISION 4 = CP NOTIFICATION					1 1 = PROJECT 2 = PROGRAM						
10. PROJECT SEQ. - UENCE NO.	11. PROJECT TITLE (40 CHARACTERS MAXIMUM)	12. QTR. FOR. OBLIG.	13. EST. FY AUTH. OBLIG. FINAL	14. APPRO. PRIA-TION	15. PRIMARY PURPOSE CODE	16. LOAN/GRANT INDICATOR	17. BUDGETS (IN \$ 000)				
							AY	OY	BY	LOP	
	<u>Food and Nutrition - Grant</u>										
628-0602	Crop Development <u>a/</u>	2	82	FN	111	GN	-	1,094	-	1,620	
625-0616	Agronomic Research <u>a/</u>	2	77	FN	141	GC	300	1,000	-	2,260	
628-0701	Matam Irrigated Perimeter <u>a/</u>	1	78	FN	123	GN	-	3,400	-	3,400	
	<u>Food and Nutrition - Loan</u>										
628-0701	Matam Irrigated Perimeter <u>a/</u>		82	FN	123	LN	-	-	16,100	16,100	
	<u>Selected Development Problems - Grant</u>										
625-0617	Environmental Assessment		77	SD	994	GC	446	-	500	3,446	
	<u>Sahel Development Program</u>										
628-0602	Crop Development		82	SH	111	GC	-	-	807	807	
628-0702	Diagambal Irrigated Perimeter <u>a/</u>	3	78	SH	123	GN	-	6,000	-	6,000	
628-0506	Data and Institutional Development <u>a/</u>	1	82	SH	663	GN	-	11,220	2,362	19,461	
628-0601	Organizational Aid to SONADER <u>a/</u>	3	80	SH	283	GN	-	500	5,900	10,700	
628-0801	Mali First Region Roads <u>a/</u>	3	80	SH	220	GN	-	3,900	5,780	9,680	
628-0605	Agronomic Research II		81	SH	141	GN	-	-	4,400	6,100	
628-0603	CUMA Test Program		82	SH	213	GN	-	-	1,120	2,200	
628-0604	Transportation Network		82	SH	792	GN	-	-	500	20,500	
<u>a/</u> Planned FY 78 funding level differs from FY 78 C.P.											
							18. DATE DOCUMENT RECEIVED IN AID/W				
							MM	DD	YY		
							06	21	77		

C.2.b. Deviations from FY 1978 Congressional Presentation

1. Crop Development Project 628-0602

The FY 78 C.P. proposed an initial obligation of \$560,000 in FY 77 and \$239,000 in FY 78. In this presentation no funds are included for FY 77; \$1,094,000 is programmed for FY 78, and \$807,000 in FY 79. The slippage in FY 77 results from delays in fielding a PP design team because of uncertainty regarding the future relationship between the OMVS-sponsored Agronomic Research Stations and the national research structure of the OMVS Member States. Total funding changed also as a result of combining the OMVS/Mauritania Forage Crop Research Project with a proposed OMVS Flood Recession Sorghum Research Project. (This was recommended in the AID/W Review of the PRP and PID documents.)

In budgeting initial funding requirements for FY 78, therefore, the two projects, now combined into one called Crop Development, include initial funding to achieve interim objectives based on principles contained in Section IV.C.2.a of AIDTO A-86 and Attachment M thereto, "Funding Guidelines".

2. Agronomic Research 625-0616

This is a regional project which has received sporadic support from several donors. In contrast to the C.P., additional AID funding has been programmed both for FYs 77 and 78. For FY 77 AID added \$300,000 to cover counterpart operating costs which could not be absorbed by either OMVS or other donor budgets.

In FY 78 OMVS is launching a long range adaptive research program and a related pre-extension effort to accelerate productivity and production increases. Plans for these programs were presented to the Club du Sahel Meeting in Ottawa in May 1977. They propose a major effort totalling over \$10,000,000 in order to develop a permanent adaptive research capacity in the River Basin and to transform the area from a deficit to a surplus food-producing region in most years. A key element to this project will be additional structures needed to absorb the additional inputs, including especially added technical personnel, training centers and equipment storage out-centers. To help accelerate the start-up of the new project, \$1,000,000 is included in FY 78 towards construction of some of the structural elements. This will help prevent any discontinuity between the ongoing research program. Thus, when the Agronomic Research II Project is approved, implementation can begin with no delay. The description and budget of the new project are contained in the PID attached to this ABS.

3. Environmental Assessment Project 625-0617

Contract negotiations with the U.S. engineering firm selected to carry out the environmental assessment of the Senegal River Basin resulted in a final cost of almost \$500,000 more than available funding (\$2,946,000 vs \$2,500,000). The difference is being allotted in FY 77. In addition, a further \$500,000 is being budgeted in this ABS for FY 79 in anticipation of additional costs which the contractor estimates may be needed to complete the study according to the technical proposal agreed upon by the OMVS and AID. A large portion of this increase is attributed to inflationary pressures.

4. Matam Irrigated Perimeter Project 628-0701

It has not been possible to obligate FY 77 funds for this project as projected in the FY 78 CP.. The feasibility study completed by Bechtel Overseas Corporation, Inc., which will form the basis of the Project Paper, continues to be under intensive review by the Government of Senegal. The method of developing the 2,800 hectares for vegetable production at Matam, i.e., sprinkler irrigation using groundwater pumped from wells, runs counter to existing Senegalese policies and practices. For this reason, we are proposing initial grant funds of \$3,400,000 in FY 78 to construct a training farm around three deep wells for demonstration irrigation by sprinkler methods of about 100 hectares. Once this pilot system is put into operation and shown to function effectively with the local farmers and subject to approval of the overall plan by the Government of Senegal, an FY 79 loan of \$16,100,000 for development of the remaining 2,700 hectares can be authorized.

5. Diagambal Irrigated Perimeter Project 628-0702

Although this project was not included in the FY 78 C.P., the IBRD has urged its initiation in FY 78 rather than in FY 79 as planned by AID. The World Bank has been studying a request to finance development of 1,500 hectares of land at Lampsar, adjacent to the 1,000 hectare Diagambal area. A joint IBRD/AID appraisal mission reviewed the design plans for the two perimeters in February 1977 and recommended that AID proceed to develop a PRP for FY 78 funding of the Diagambal perimeter so that the two projects could be developed simultaneously, with concomitant economies in technical assistance requirements and in some of the heavy equipment.

6. OMVS Data and Institutional Development Project 628-0506

The FY 78 C.P. contained a budget for \$4,300,000 for the three activities which this project embraces: Basin Survey and Mapping, Water Data Collection, and Institutional Development. Development of the mapping activity has resulted in submission of a PP which is expected to be approved very early in FY 78, or possibly at the end of FY 77. The entire PP will propose FY 78 funding of \$11,220,000 distributed as follows:

Basin Survey and Mapping: \$4,703,000 to complete the ground survey and leveling work and initiate the aerial photography. Once the PP is approved, a contract for this work can be signed by December 1977.

Water Data Collection: \$4,707,000 for completing information on groundwater deposits in the Senegal River Basin and for establishing a network of gauging stations along the River for measuring river flow and rainfall. A PP design team will amend the existing PP to allow for funding of this activity in the first quarter of FY 78.

Institutional Development: \$1,810,000 for providing advisers to the OMVS secretariat in the general areas of management and environmental affairs, for carrying out special studies relating to augmenting the data base on which the OMVS must rely to carry out effective planning, for supplying a soils and water laboratory, and for observation and study tours of OMVS officials to the U.S. These elements will be added to the PP for additional funding later in FY 78.

7. Organizational Aid to SONADER Project 628-0601

This project, which embodies start-up assistance to Mauritania's National Rural Development Agency, was not included in the FY 78 C.P. because the Government of Mauritania had not yet provided a sufficiently detailed project request to enable preparation of a PRP. In addition, issuance of a World Bank study was delayed several months. The Bank proposal centers on provision of technical assistance in the areas of organizational and financial management and economic analysis. The Government of Mauritania has requested that AID assist SONADER in the provision of heavy equipment for development of irrigated perimeters and of assistance in meeting operational costs once SONADER begins developing irrigation perimeters. Initial equipment needs will be minimal so that \$500,000 is being requested for FY 78. FY 79 will fund the balance of the equipment requirements and funding of operational costs will begin in FY 80.

8. Mali First Region Roads Project 628-0801

Delays in submitting a PRP precluded inclusion of this project in the FY 78 CP. The Government of Mali is in the process of studying transport priorities within the country and as related to Sahel-wide development plans for the transport sector. For this reason, submission of the PRP has been suspended until the Malian Government advises its priorities for the development of rural roads in that region. On the basis of information provided informally, however, we have been able to budget funds for FY 78 (and FY 79) as shown in Table IV which provide reasonably accurate funding requirements for the project. A final PRP will be submitted in the first quarter of FY 78.

C.2.c. Table IV - Ongoing Project Data and Project Narrative Statements

COUNTRY/PROGRAM OMVS-Senegal River Basin		PROJECT TITLE Crop Development		INITIAL OBLIGATION FY 77	REVISION FY 78	DATE PP/REVISION 11/77
ONGOING PROJECT		PROJECT NUMBER 628-0602		FINAL OBLIGATION FY 81	REVISION FY 80	DATE LAST PAR
BUDGET DATA - TABLE IV		APPROPRIATION FN/SH		TOTAL COST 2,427	REVISION	DATE NEXT PAR 1/79

U. S. DOLLAR COST (\$ 000)

PROJECT INPUTS	ESTIMATED FY 1977			ESTIMATED FY 1978			ESTIMATED FY 1979			
	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	FUND- PERIOD (FR-TO)
PROJECT TOTAL	1,094	529	565	807	536	836				
Agronomist-Crop Researcher	160	60	100	160	80	180				1/80-12/81
Dryland Forage Manager (PCV)	30	11	19	30	15	34				
Irrigation Specialist	120	45	75	120	60	135				
Research Specialists	42	21	21	42	21	42				
Agronomist-Flood Recession Sorghum	160	60	100	160	80	180				
Training in Forage Production	72	10	62	72	30	104				1/79-12/80
On-the-job training	36	5	31	36	15	52				" "
Seeds fertilizer and pesticides	54	22	32	54	27	29				" "
Vehicles	30	30	75	30	45	30				
Construction and operating costs	120	45	75	120	105	105				1/19-12/80
Irrigation equipment	120	120	50	120	100	50				
Guaranteed yield	150	100	50	150	100	100				" "
HOST COUNTRY INPUT	300			400						

PERSONNEL ON BOARD AS OF	PARTICIPANTS PROGRAMMED		
	FY 1977	FY 1978	FY 1979
DH	0	0	2
PASA	0	0	8
CONTRACT	0	4	4
	NON-CONTRACTS LONG-TERM		
	SHORT-TERM		
	CONTRACTS LONG-TERM		
	SHORT-TERM		

1/ SHOULD BE CONSISTENT WITH LATEST APPROVED OYS LEVEL SHOWN IN TABLE II

2/ EXCLUDES CONSULTANTS PROGRAMMED FOR LESS THAN 90 DAYS

3/ LONG-TERM - INCLUDES 9 MONTHS OR MORE

4/ For funding period, indicate starting and ending date by month and year of obligations for each project element; e.g., 2/78-10/79.

OMVS Crop Development Project 628-0602

Progress to Date: This project was not initiated in FY 77, pending clarification on the future of the OMVS Agronomic Research Stations after they revert to national sponsorship in 1978. Discussions with OMVS and Member States officials revealed a continued interest in this program as a regional research effort, and the continued OMVS role and its importance have been analyzed and confirmed. The scope of the project will embrace both forage crop research, as explained on page 379 of the FY 78 C.P., and research into flood recession sorghum varieties, as directed by the ECPR in its review of the PRP. A design team is expected to complete its work and submit a Project Paper for final approval in early FY 1978.

COUNTRY/PROGRAM OMVS-Senegal River Basin	PROJECT TITLE Environmental Assessment of the Senegal River Basin				AS APPROVED FY 76	REVISION FY	DATE PP/REVISION 5/75
ONGOING PROJECT	PROJECT NUMBER				AS APPROVED FY 77	REVISION FY 79	DATE LAST PAR
BUDGET DATA - TABLE IV	APPROPRIATION SD				AS APPROVED \$2,946	REVISION \$3,446	DATE NEXT PAR 4/78
U. S. DOLLAR COST (\$ 000)							

PROJECT INPUTS	ESTIMATED FY 1977			ESTIMATED FY 1978			ESTIMATED FY 1979		
	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	FUND- PERIOD (FR-TO)	PIPE- LINE	FUND- PERIOD (FR-TO)
PROJECT TOTAL	446	1,000	1,946		1,750	196		500	696
Environmental Assessment Contract	446	1,000	1,946		1,750	196		500	696
									12/78-3/79

HOST COUNTRY INPUT	PARTICIPANTS PROGRAMMED			ESTIMATED FY 1978		
	1/ PERSONNEL ON BOARD AS OF	FY 1977	FY 1978	FY 1977	FY 1978	FY 1979
2/	9/29/77	10/29/78	0	0	0	0
DM	0	0	0	0	0	0
PASA	0	0	0	0	0	0
CONTRACT	4	4	0	0	0	0

1/ SHOULD BE CONSISTENT WITH LATEST APPROVED OYS LEVEL SHOWN IN TABLE II

2/ EXCLUDES CONSULTANTS PROGRAMMED FOR LESS THAN 90 DAYS

3/ LONG-TERM - INCLUDES 9 MONTHS OR MORE

4/ For funding period, indicate starting and ending date by month and year of obligations for each project element; e.g., 2/78-10/79.

OMVS Environmental Assessment Project 625-0617

Progress to Date: The contract to implement this project was signed between the OMVS and the U.S. engineering firm Gannett Fleming Corddry and Carpenter in January 1977. Field activities commenced on April 1, 1977. The initial work plan is being drawn up for approval by OMVS and AID in June 1977.

1.

COUNTRY/PROGRAM OMVS-Senegal River Basin	PROJECT TITLE OMVS Data and Institutional Development				AS APPROVED FY 78	REVISION FY	DATE PP/REVISION 8/77
ONGOING PROJECT	OMVS Data and Institutional Development				AS APPROVED FY 82	REVISION FY	DATE LAST PAR
BUDGET DATA - TABLE IV	PROJECT NUMBER 628-0506	APPROPRIATION SH		TOTAL COST 19,461	AS APPROVED 19,461	REVISION	DATE NEXT PAR 1/79

U. S. DOLLAR COST (\$ 000)

PROJECT INPUTS	ESTIMATED FY 1977			ESTIMATED FY 1978			ESTIMATED FY 1979		
	OBLIGATION	EXPENDITURES	PIPE-LINE	OBLIGATION	EXPENDITURES	PIPE-LINE	OBLIGATION	EXPENDITURES	PIPE-LINE
PROJECT TOTAL									
a. Basin Survey and Mapping	11,220	4,428	6,792	2,362	4,547	4,607	2,362	4,547	4,607
Map production contract	4,703	1,754	2,949	922	1,922	1,949	922	1,922	1,949
Contract inspection work	2,564	954	1,610	676	1,020	1,266	676	1,020	1,266
Other costs	135	35	100	45	115	30	45	115	30
Inflation and contingency	1,294	578	716	1	460	257	1	460	257
	710	187	523	200	327	396	200	327	396
b. Water Data Collection	4,707	1,594	3,113	1/78-12/80	1,495	1,618	1/78-12/80	1,495	1,618
Technical experts in hydrology, hydrometeorology, hydrogeology, communications, administration and consultants	1,398	355	1,043		466	577		466	577
Training in hydrogeology, hydrology, communications and on-the-job equipment	316	90	226		183	43		183	43
Vehicles and boats	569	502	67		67			67	
Construction materials and office equip.	243	243			33	25		33	25
Operational costs, including drilling	91	33	58		523	743		523	743
Inflation and contingency	1,339	73	1,266		223	230		223	230
	751	298	453						
TOTAL	776	776	776	776	776	776	776	776	776

HOST COUNTRY INPUT

PERSONNEL ON BOARD AS OF	PARTICIPANTS PROGRAMMED		
	FY 1977	FY 1978	FY 1979
9/30/77	9/30/78	9/30/79	
DH	0	12	8
PASA	0		
CONTRACT	0		
	9		
	3		
	9		

1/ SHOULD BE CONSISTENT WITH LATEST APPROVED OYS LEVEL SHOWN IN TABLE II

EXCLUDES CONSULTANTS PROGRAMMED FOR LESS THAN 90 DAYS
 LONG-TERM - INCLUDES 9 MONTHS OR MORE
 For funding period, indicate starting and ending date by month and year of obligations for each project element; e.g., 2/78-10/79.

COUNTRY/PROGRAM OMVS-Senegal River Basin	PROJECT TITLE OMVS Data and Institutional Development	AS APPROVED FY 78	REVISION FY	DATE PF/REVISION 8/77
ONGOING PROJECT		AS APPROVED FY 82	REVISION FY	DATE LAST PAR
BUDGET DATA - TABLE IV	PROJECT NUMBER 628-0506	AS APPROVED 19,461	REVISION	DATE NEXT PAR 1/79
U. S. DOLLAR COST (\$ 000)				

PROJECT INPUTS	ESTIMATED FY 1977			ESTIMATED FY 1978			ESTIMATED FY 1979		
	OBLIGATION	EXPENDITURES	PIPE-LINE	OBLIGATION	EXPENDITURES	PIPE-LINE	OBLIGATION	EXPENDITURES	PIPE-LINE
PROJECT TOTAL									
c. Institutional Development	1,810	1,080	730	1,440	1,130	1,040			
Advisers in operations and management, financial management, environmental affairs	360	180	180	240	180	240			1/80-12/80
Studies fund	700	450	250	800	600	450			
Supporting materials and soils and water laboratory	500	300	200	250	200	250			
Observation and study tours	50	50	50	50	50	50			
Inflation and contingency	200	100	100	150	100	150			
PROJECT TOTAL	776			776			776		

HOST COUNTRY INPUT	PARTICIPANTS PROGRAMMED			1/ SHOULD BE CONSISTENT WITH LATEST APPROVED OYS LEVEL SHOWN IN TABLE II
	FY 1977	FY 1978	FY 1979	
3/ PERSONNEL ON BOARD AS OF	9/30/77	9/30/78	9/30/79	
DH				
PASA				
CONTRACT				

3/ LONG-TERM - INCLUDES 9 MONTHS OR MORE
 4/ For funding period, indicate starting and ending date by month and year of obligations for each project element; e.g., 2/78-10/79.

OMVS Data and Institutional Development Project 628-0506

Progress to Date: As explained on page 417 of the FY 1978 C.P., this project embraces three activities: mapping, water data collection, and institutional development. The PP for the mapping portion of this project is being submitted to AID/Washington in June 1977, and a contract for the entire mapping program is to be awarded by end CY 1977. Design work on the other two aspects of this project will be completed in the last quarter of FY 1977, and the Project Paper will be amended accordingly to provide funding in order to initiate these two activities in FY 1978. Regular program funding may not be needed for the Institutional Development sub-project in FY 1977, as had been expected in the FY 1978 Congressional Presentation, because the OMVS High Commissioner has not yet identified pressing requirements for continuing technical assistance beyond that already committed under aid programs.

COUNTRY/PROGRAM OMVS-Senegal River Basin		PROJECT TITLE Matam Irrigated Perimeter		AS APPROVED FY 77	REVISION FY 78	DATE PP/REVISION 9/77
ONGOING PROJECT		PROJECT NUMBER 628-0701		AS APPROVED FY 81	REVISION FY 79	DATE LAST PAR
BUDGET DATA - TABLE IV		APPROPRIATION FN		AS APPROVED 19,500	REVISION	DATE NEXT PAR 1/79

		U. S. DOLLAR COST (\$ 000) GN											
		ESTIMATED FY 1977-1					ESTIMATED FY 1978						
		OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	PIPE- LINE	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	PIPE- LINE	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	FUND- PERIOD (FR-TO)
PROJECT TOTAL		3,400				16,100							
Training Farm		900	160	740	4/78-	300	440						
Technical assistants		655	655		3/82 1/78-								
Engineering design		555	300	255	9/78 1/78-	225	30						
Equipment and supplies		390	200	190	12/80 4/78-	190							
Construction costs		600	300	300	12/78 1/78- 6/79	300							
Hydrogeological drilling										12,700			1/80-12/83
Irrigation network										1,300			10/79-12/81
Equipment, construction, buildings										900			1/80-12/83
Engineering design										1,200			
Construction management													
Contingency and inflation													
HOST COUNTRY INPUT		300				6,200							
PARTICIPANTS PROGRAMMED		1/ SHOULD BE CONSISTENT WITH LATEST APPROVED OYB LEVEL SHOWN IN TABLE II											
PERSONNEL ON BOARD AS OF		2/											
	9/30/77	9/30/78	9/30/79	FY 1977		FY 1978		FY 1979					
DH	0	0	0	NON-CONTRACT; LONG-TERM		NON-CONTRACT; LONG-TERM		NON-CONTRACT; LONG-TERM					
PASA	0	0	0	SHORT-TERM CONTRACT		SHORT-TERM CONTRACT		SHORT-TERM CONTRACT					
CONTRACT	0	4	4	SHORT-TERM		SHORT-TERM		SHORT-TERM					

3/ EXCLUDES CONSULTANTS PROGRAMMED FOR LESS THAN 90 DAYS
 4/ LONG-TERM - INCLUDES 9 MONTHS OR MORE
 For funding period, indicate starting and ending date by month and year of obligations for each project element; e.g., 2/78-10/79.

Matam Irrigated Perimeter Project 628-0701

Progress to Date: The feasibility study prepared by Bechtel Overseas International, Inc., and financed by AID under project 625-0618, is currently under review by the Government of Senegal. The study proposes the creation of 2,800 hectares of sprinkler irrigation for vegetables and sorghum near Matam, Senegal. On the basis of the feasibility study recommendations as modified by GOS views, a PP will be completed in the final quarter of FY 1977. This will permit scheduling initial obligation of grant funds for a training farm in the first quarter of FY 1978.

COUNTRY/PROGRAM OMVS-Senegal River Basin		PROJECT TITLE Diagambal Irrigated Perimeter		INITIAL OBLIGATION	AS APPROVED FY 78	REVISION FY	DATE PP/REVISION 2/78
ONGOING PROJECT				FINAL OBLIGATION	AS APPROVED FY 78	REVISION FY	DATE LAST PAR
BUDGET DATA - TABLE IV		PROJECT NUMBER 628-0702	APPROPRIATION SH	TOTAL COST	AS APPROVED 6,000	REVISION	DATE NEXT PAR 5/79

U. S. DOLLAR COST (\$ 000)

PROJECT INPUTS	ESTIMATED FY 1977			ESTIMATED FY 1978			ESTIMATED FY 1979			
	OBLIGATION	EXPEN-DITURES	PIPE-LINE	OBLIGATION	EXPEN-DITURES	PIPE-LINE	OBLIGATION	EXPEN-DITURES	PIPE-LINE	FUND PERIOD (FR-TO)
PROJECT TOTAL				6,000	1,260	4,740		4,040	700	
Irrigation equipment adviser				240	20	220		80	140	
Agronomist				240	20	220		80	140	
Research agronomist				240	20	220		80	140	
Irrigation sprinkler equipment				3,000	500	2,500		2,500	0	
Construction materials				1,200	500	700		600	100	
Construction and operating costs				1,080	200	880		700	180	

HOST COUNTRY INPUT	PARTICIPANTS PROGRAMMED			NON-CONTRACT; LONG-TERM	SHORT-TERM CONTRACT	LONG-TERM SHORT-TERM
	FY 1977	FY 1978	FY 1979			
PERSONNEL ON BOARD AS OF						
	9/30/77	9/30/78	9/30/79			
DH	0	0	0			
PASA	0	0	0			
CONTRACT	0	3	3			

1/ SHOULD BE CONSISTENT WITH LATEST APPROVED OYB LEVEL SHOWN IN TABLE II

2/ EXCLUDES CONSULTANTS PROGRAMMED FOR LESS THAN 90 DAYS

3/ LONG-TERM - INCLUDES 9 MONTHS OR MORE

4/ For funding period, indicate starting and ending date by month and year of obligations for each project element; e.g., 2/78-10/79.

Diagambal Irrigated Perimeter Project 628-0702

Progress to Date: AID has contracted with a group of U.S. consultants to re-design and re-cost the original plans prepared by a French engineering firm, SCET International, for sprinkler irrigation of 1,000 hectares in the Delta Region of the Senegal River. On the basis of this re-design, of the World Bank analysis currently being prepared, and of the environmental and sociological reports recently completed, an AID issues paper will be prepared for presentation to the ECPR with the recommendation that the above reports be approved as constituting PRP level analyses and that a PP design team be recruited and fielded. The AID review is scheduled for August 1977, and the PP design team should be fielded within the following 6 months.

OMVS Agronomic Research Project 625-0616

The AID input to this project complemented other donor assistance through provision of equipment (and related services) and financing of a portion of local operating costs.

Progress to Date: All equipment ordered under this project has been delivered to the three agronomic research stations in Mali, Mauritania and Senegal. The equipment adviser completed the 16 month tour during which he prepared the equipment specifications and helped procure and provide for delivery and initial servicing. Operational costs remain burdensome to the OMVS Member States, and \$300,000 of FY 77 money has been allocated to defray operations and maintenance costs of the stations through mid-1978.

Follow-on research activities have been proposed by OMVS to develop continuing research capacity and to accelerate pre-extension activities. The two project proposals for the next four years were prepared by OMVS and submitted to the Club des Amis du Sahel meeting in Ottawa in May 1977. In response and as a first step towards realizing the objectives of Agronomic Research II which is proposed as a new project in FY 1979 (see attached PID), it is recommended that this project be extended for one year. The AID input would be an allocation of \$1,000,000 in FY 1978 to permit construction of required lodging and farm structures for the follow-on project as well as 18 months of services of an equipment adviser to oversee the use and maintenance of equipment provided under Agronomic Research I, and to assist in assessing additional equipment requirements under Agronomic Research II and for a new, cooperative development (CUMA) project.

COUNTRY/PROGRAM OMVS- Senegal River Basin		PROJECT TITLE Organizational Aid to SONADER		INITIAL OBLIGATION FY 78	AS APPROVED FY 78	REVISION FY	DATE PP/REVISION 3/78
ONGOING PROJECT				FINAL OBLIGATION FY 80	AS APPROVED FY 80	REVISION FY	DATE LAST PAR
BUDGET DATA - TABLE IV		PROJECT NUMBER 628-0601		TOTAL COST	AS APPROVED 10,700	REVISION	DATE NEXT PAR 4/79
		APPROPRIATION SH					

U. S. DOLLAR COST (\$ 000)

PROJECT INPUTS	ESTIMATED FY 1977-1/			ESTIMATED FY 1978			ESTIMATED FY 1979				
	OBLIGATION	EXPEN-DITURES	PIPE-LINE	OBLIGATION	EXPEN-DITURES	PIPE-LINE	FUND- PERIOD (FR-TO)	OBLIGATION	EXPEN-DITURES	PIPE-LINE	FUND PERIOD (FR-TO)
Equipment	500	100	400	500	100	400	6/78-6/79	5,900	3,000	3,300	7/79-6/81
PROJECT TOTAL											

HOST COUNTRY INPUT	PARTICIPANTS PROGRAMMED			3/	1/
	FY 1977	FY 1978	FY 1979		
PERSONNEL ON BOARD AS OF	9/30/77	9/30/78	9/30/79		SHOULD BE CONSISTENT WITH LATEST APPROVED OYB LEVEL SHOWN IN TABLE II
DH	0	0	0		
PASA	NON- CONTRACT:			2/	EXCLUDES CONSULTANTS PROGRAMMED FOR LESS THAN 90 DAYS
	LONG- TERM				
CONTRACT	SHORT- TERM			3/	LONG- TERM - INCLUDES 9 MONTHS OR MORE
	CONTRACT				
	LONG- TERM			4/	For funding period, indicate starting and ending date by month and year of obligations for each project element; e.g., 2/78-10/79.
	SHORT- TERM				

AID J330-8 (2-77)

Organizational Aid to SONADER Project 628-0601

Progress to Date: The Mauritanian National Rural Development Agency, SONADER, requires substantial technical and managerial assistance, as well as earth-moving and agricultural equipment, in order to begin implementing its role of developing irrigation projects in Mauritania. The World Bank is expected to approve shortly a project to supply SONADER with operational assistance in management, finance, agricultural science, economics and training. AID has been requested to assist in the provision of equipment and operational costs. A team will be fielded in the last quarter of FY 1977 for preparation and submission of a PRP to AID/Washington in the first quarter of FY 1978.

COUNTRY/PROGRAM OMVS-Senegal River Basin		PROJECT TITLE Mali First Region Roads				AS APPROVED FY 78	REVISION FY	DATE PP/REVISION 12/77
ONGOING PROJECT		INITIAL OBLIGATION		AS APPROVED FY 79		REVISION FY		DATE LAST PAR
BUDGET DATA - TABLE IV		FINAL OBLIGATION		AS APPROVED FY 79		REVISION FY		DATE NEXT PAR
PROJECT NUMBER 628-0801		APPROPRIATION SH		TOTAL COST 9,680		REVISION		DATE NEXT PAR 1/79

U. S. DOLLAR COST (\$ 000)

PROJECT INPUTS	ESTIMATED FY 1977-1/				ESTIMATED FY 1978				ESTIMATED FY 1979			
	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	4/ FUND- PERIOD (FR-TO)	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	4/ FUND- PERIOD (FR-TO)	OBLIG- ATION	EXPEN- DITURES	PIPE- LINE	4/ FUND- PERIOD (FR-TO)
PROJECT TOTAL	3,900	2,451	1,449		5,780	2,998	4,231					
Construction equipment	2,115	1,500	615	1/78- 12/79		615						
Materials	1,017	817	200	6/79- 6/80	4,995	2,000	3,195	6/80-3/82				
Engineer (including design work)	210	50	160	3/79- 8/80	210	120	250	9/80-3/82				
Training	58	12	46	1/78- 12/80		23	23					
Operating costs	500	72	428	1/78- 12/80	575	240	763	1/81-3/82				
HOST COUNTRY INPUT												
1/ SHOULD BE CONSISTENT WITH LATEST APPROVED OYB LEVEL												
2/ PARTICIPANTS PROGRAMMED												
3/ PERSONNEL ON BOARD AS OF												
	9/30/77	9/30/78	9/30/79		FY 1977	FY 1978	FY 1979					
DH	0	0	0	NON-CONTRACT; LONG-TERM								
PASA	0	0	0	SHORT-TERM CONTRACT;	2	34						
CONTRACT	0	1	1	LONG-TERM SHORT-TERM								

3/ EXCLUDES CONSULTANTS PROGRAMMED FOR LESS THAN 90 DAYS

4/ LONG-TERM - INCLUDES 9 MONTHS OR MORE

For funding period, indicate starting and ending date by month and year of obligations for each project element; e.g., 2/78-10/79.

Mali First Region Roads Project 628-0801

Progress to Date: A PRP is to be submitted in the first quarter of fiscal year 1978, proposing the financing under force account of two roads in Mali's First Region, along with the provision of bridges and culverts in the vicinity of Kayes, capital of the First Region. The project will also include funds for the design work, the services of one engineer, training of the Public Works brigades, and operating costs.

TABLE V - FY 1979 PROPOSED PROGRAM RANKING

RANK	DECISION PACKAGES/PROGRAM ACTIVITY/SUPPORT ITEM DESCRIPTION	DECISION UNIT OMVS - Senegal River Basin		REVISSED BY						CONSOLIDATED BY			
		APPROXIMATE ACCT	OPERATING EXPENSES (000)	INCREASING CUMULATIVE		INCREASING CUMULATIVE		INCREASING CUMULATIVE		INCREASING CUMULATIVE			
				US	FN	US	FN	US	FN	US	FN		
	<u>Decision Package - Minimum:</u>		87.5	4	0	4	0						
	Workforce and Operating Expenses (Assuming no FY 1979 Obligations)												
1	628-0703 Agronomic Research II (GN)	SH	107.0	1	0	5	0	3,800				3,800	
2	628-0603 CUMA Test Program (GN)	SH		-	-	5	0	600				4,400	
3	628-0604 OMVS Transport Network (GN)	SH		-	-	5	0	400				4,800	
	<u>Decision Package - Current:</u>												
4	628-0603 CUMA Test Program (GN)	SH	107.0	-	-	5	0	300				5,100	
5	625-0617 Environmental Assessment (GO)	SD		-	-	5	0	500				5,600	
6	628-0602 Crop Development (GO)	SH		-	-	5	0	500				6,100	
	<u>Decision Package - Proposed:</u>												34
7	625-0506 Data and Institutional Development (GO)	SH	107.0	-	-	5	0	2,400				8,500	
8	628-0801 Mali First Region Roads (GO)	SH		-	-	5	0	5,800				14,300	
9	628-0703 Agronomic Research II (GN)	SH		-	-	5	0	600				14,900	
10	628-0602 Crop Development (GO)	SH		-	-	5	0	300				15,200	
11	628-0603 CUMA Test Program (GN)	SH		-	-	5	0	1,800				17,000	
12	628-0601 Organizational Assistance to SONADER (GN)	SH		-	-	5	0	6,000				23,000	
13	628-0701 Matam Irrigated Perimeter (LN)	FN		-	-	5	0	16,100				39,100	

TABLE VB- FY 1979 PROPOSED PROGRAM RANKING

RANK	DECISION PACKAGES/PROGRAM ACTIVITY/SUPPORT ITEM DESCRIPTION	DECISION UNIT OMVS - Senegal River Basin		RESOURCE REQUIREMENTS						INCREASE, CUMULATIVE
		APPROPRIATION ACCT	EXERCISES (000)	CURRENT YEAR		CUMULATIVE		TOTAL	PRIOR YEAR FUNDING (000)	
				US	FN	US	FN			
	<u>Functional Appropriations</u>									
	<u>Decision Package - Minimum, Current & Proposed:</u>									
	Workforce and Operating Expenses (Assuming no FY 1979 Obligations)									
1	625-0617 Environmental Assessment	SD	107.0	1	0	5	0	500	500	500
2	628-0701 Matam Irrigated Perimeter	FN	-	-	-	-	-	16,100	16,100	16,600

34B

C.2.e. Project Identification Documents (PIDs)

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT IDENTIFICATION DOCUMENT FACESHEET
 TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE
 A = ADD
 C = CHANGE
 D = DELETE

PID
 2. DOCUMENT CODE 1

3. COUNTRY/ENTITY
 OMVS - Senegal River Basin

4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 DIGITS) 628-0604

6. BUREAU/OFFICE
 A. SYMBOL AFR B. CODE 06

7. PROJECT TITLE (MAXIMUM 40 CHARACTERS)
 OMVS Transport Network

8. PROPOSED NEXT DOCUMENT
 A. 3 = PRP
 2 = PRP
 3 = PP

B. DATE 10 77

10. ESTIMATED COSTS (\$000 OR EQUIVALENT, \$1 =)

FUNDING SOURCE	AMOUNT
A. AID APPROPRIATED	20,500
B. OTHER	
C. MOST COUNTRY	
D. OTHER DONOR(S)	
TOTAL	20,500

9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION
 a. INITIAL FY 7 9
 b. FINAL FY 8 3

11. PROPOSED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. FIRST FY 79		LIFE OF PROJECT	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	H. GRANT	I. LOAN
(1) SH	220 S	061		500	-	20,500	-
(2)							
(3)							
(4)							
TOTAL				500	-	20,500	-

12. SECONDARY TECHNICAL CODES (maximum six codes of three positions each)
 200 252

13. SPECIAL CONCERNS CODES (MAXIMUM SIX CODES OF FOUR POSITIONS EACH)

14. SECONDARY PURPOSE CODE
 791

15. PROJECT GOAL (MAXIMUM 240 CHARACTERS)
 To develop and utilize the human and natural resources of the Senegal River Basin for increased incomes and food production.

16. PROJECT PURPOSE (MAXIMUM 480 CHARACTERS)
 To establish a rational transport network to complement and facilitate the integrated development of the Senegal River Basin.

17. PLANNING RESOURCE REQUIREMENTS (staff/funds)
 Transport Economist (15 m), 2 field engineers (12 m. each), Agricultural Economist (12 m) Consultants (aviation, railroad, river navigation planners (4-6m. each).. \$50,000 completed by 12/79.

18. ORIGINATING OFFICE CLEARANCE

Signature: *Joseph Suardiana*

Title: AID/OMVS Coordinator

Date Signed: MM DD YY 06 11 77

19. DATE DOCUMENT RECEIVED / AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
 MM DD YY 06 21 77

1. Summary of Problem and Proposed Response

The transport network in the Senegal River Basin appears to have evolved primarily for providing administrative access from and between major population centers. Although it services and influences economic activity, in general, the combined road, rail, air and river system is not designed expressly to stimulate economic growth and to support major development programs. While this system might have been adequate for this area since independence at the turn of the sixties, it will not support the enormous investment program planned for the next twenty to thirty years. The Senegal River Basin Development Organization (OMVS) has prepared an Indicative Basin Plan which projects expenditures of about \$4 billion through the year 2012. The goal, as established by the OMVS Member States (Mali, Mauritania, and Senegal) is to develop and utilize the human and natural resources of the Basin for increasing food production and family incomes. The programs proposed for doing this are to be carried out in a coordinated fashion and involve major water impoundment schemes along the Senegal River, development of almost 400,000 hectares of irrigated food production, exploitation of minerals and creation of industries using hydro-electric power, and renewal of the Senegal River as a major navigational artery. Ultimately, though gradually, these countries foresee an integration of their separate economies as a natural evolution stemming initially from the Senegal Basin program.

To implement this tremendous program the OMVS has been engaged in soliciting funds from various donors and has already obtained commitments totalling about \$200 million, against dam construction requiring about \$400 million. The phasing is such, however, that OMVS is satisfied that studies and design are adequate to permit construction to begin in 1978. This will initiate the major facilities, including two dams and a series of river and port improvements. A variety of irrigated perimeter schemes are already underway, and additional agricultural programs will continue as rapidly as financing, socio-economic, and environmental factors permit. It is clear that during the rest of this century there will be profound changes in agricultural productivity and production, in spatial organization for human activity, including growth of both old and new marketing and production centers, and in economic relationships across the frontiers of these States within the region and beyond to other borders.

2. Description of Project

This PID addresses the problem of how the transport network must evolve to cope, initially, with the major construction program as already defined, and thereafter to serve the expanded economic activity planned, and/or which can be anticipated from the OMVS and Member State development plans. The proposal is made that AID:

- carry out a study describing the existing network and current and projected deficiencies;
- prepare a plan for the network's development, as a rational system designed to meet the construction program's needs and thereafter to stimulate and service the Basin's development activities, including identification of priorities and reasonable estimates of cost magnitudes; and
- finance a series of network improvements, in concert with IBRD and other donors through annual contributions to a transport network consortium for the Senegal River Basin.

To carry out the study and prepare a transport sector plan will require a team including (a) the full time services of a transport economist for approximately 15 months; (b) two field engineers and an agricultural economist for 12 months each; and (c) consulting services of aviation, railroad, and river navigation planners for four to six months each. Their costs are estimated to total \$500,000 with all work completed by December 1979.

Because of the rather extensive work done already by IBRD and other donors on various aspects of the transport network in the separate countries, much of the effort will consist of compiling and synthesizing reports and analyses already prepared and making field checks to confirm the accuracy and currency of the data. This should then permit a relatively large amount of team time to be spent on project plans and proposals in transport activities to which AID can begin its contribution of \$10 million annually beginning in FY 1980 through FY 1983.

Success of the construction program assumes that by CY 1980 procedures will have been developed between and among Club des Amis members and CILSS to permit rapid implementation of regional activities.

Alternatives:

The only realistic alternative to the approach suggested in this PID is the methodology now followed in programming AID transport assistance. Specific road segments, for example, are identified as representing a bottleneck to further development or as being necessary to permit other socio-economic change. While this is a valid and useful method for limited program actions (geographically or financially), its piecemeal approach tends to ignore "the bigger picture" in regard to alternative transport solutions, long-range planning, and an integrated and coordinated focus encompassing total resources planning for large regions such as the Senegal River Basin. It also suffers the possible disadvantage of slighting transport segments which have little national significance but important regional (trans-border) significance.

Beneficiaries

An improved transport network in the Senegal River Basin will benefit primarily the inhabitants of the area, the vast majority of whom are poor rural farmers and fishermen. Their precise identification, however, will be a function of the study included as the first part of this project.

Spread Effect

The experience gained in carrying out this study, preparation of plans, and implementation of a master transport plan for an international region, in Africa, will be extremely valuable as a guide to other similar river basin programs in Sahelian Africa, all of which look to the Senegal River Basin program as a model for their future emulation.

3. Financial Requirements and Plans

The only estimates of costs which can be determined at this time are those of the study-planning team. These are as follows:

Transport Economist	\$125,000
Field Engineers (2)	160,000
Agricultural Economist	90,000
Consultants (rail, river, air)	100,000
Miscellaneous	25,000
	<hr/>
Total	\$500,000

In addition, a recommended contribution of \$10 million per year for 4 years is included as an equitable portion of what is envisaged as multidonor effort embracing transport requirements for some 290,000 square kilometers and which will directly affect at least 2 million inhabitants of the Basin.

Host country and OMVS contributions will be estimated as part of the total study plan. For the study itself, this portion of their contribution will be developed in the PRP.

4. Development of the Project

This project can be developed and implemented in several different ways:

- 1) Preparation of a standard PRP-PP, utilizing REDSO and/or AID/W assistance;

2) Division of the project into two components:

- Data gathering, analysis and preparation of a master transport plan, including charting the AID contribution; and
- An implementation phase in which construction and organizational developments will be carried out for establishing the infrastructure necessary to support the overall development program.

The first component could be carried out as part of the PRP-PP process and be financed as such under project development funds. The follow-on activities would then be financed as a separate project.

- 3) Under the Regional Planning and Research Project in FY 1978 a small team could spend several months collecting and synthesizing the data available which might then be used as the basis for determining the preferred approach thereafter to develop the successive project phases.

The OMVS Coordinator's Office is uncertain as to which approach best meets funding and technical feasibility criteria, and defers to AID/W's recommendations.

5. Issues

Although a significant aspect of this project is a planning effort, implied therein is that AID intends to finance at least some portion of the plan's programs. Also, the bulk of funds proposed herein are for follow-on activities, most of which will be for some aspect of infrastructure development. It must be recognized at the outset, therefore, that the total program cannot support solely farm-to-market or feeder roads, but rather an array of transport modes serving an ecosystem spanning three countries along a major river basin of the Sahel. Focus on the rural poor is, of course, the ultimate purpose of the Basin Program, but in the transport sector, as a sector, many potential beneficiaries may be at least one step removed from major aspects of an integrated transport network.

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT IDENTIFICATION DOCUMENT FACESHEET TO BE COMPLETED BY ORIGINATING OFFICE				1. TRANSACTION CODE <input type="checkbox"/> A A = ADD <input type="checkbox"/> C C = CHANGE <input type="checkbox"/> D D = DELETE		PID 2. DOCUMENT CODE 1	
3. COUNTRY/ENTITY OMVS			4. DOCUMENT REVISION NUMBER <input type="checkbox"/>				
5. PROJECT NUMBER (7 DIGITS) <input type="checkbox"/> 628-0605		6. BUREAU/OFFICE A. SYMBOL B. CODE AFR 06		7. PROJECT TITLE (MAXIMUM 40 CHARACTERS) <input type="checkbox"/> Agronomic Research II			
8. PROPOSED NEXT DOCUMENT A. <input type="checkbox"/> 3 2 = PRP <input type="checkbox"/> 3 3 = PP B. DATE <input type="checkbox"/> 03 <input type="checkbox"/> 7 <input type="checkbox"/> 8				10. ESTIMATED COSTS (\$000 OR EQUIVALENT, \$1 =)			
9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION a. INITIAL FY <input type="checkbox"/> 7 <input type="checkbox"/> 9 b. FINAL FY <input type="checkbox"/> 8 <input type="checkbox"/> 2				FUNDING SOURCE		BASE	
				A. AID APPROPRIATED		6,100	
				B. OTHER			
				C. HOST COUNTRY		5,000	
				D. OTHER DONOR(S)		3,000	
		TOTAL		14,100			
11. PROPOSED BUDGET AID APPROPRIATED FUNDS (\$000)							
A. APPRO- PRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. FIRST FY <u>79</u>		LIFE OF PROJECT	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	H. GRANT	I. LOAN
(1) SH	141 S	080		4,400	-	6,100	-
(2)							
(3)							
(4)							
TOTAL				4,400	-	6,100	-
12. SECONDARY TECHNICAL CODES (maximum six codes of three positions each) 030 053							
13. SPECIAL CONCERNS CODES (MAXIMUM SIX CODES OF FOUR POSITIONS EACH) R/AG						14. SECONDARY PURPOSE CODE 111	
15. PROJECT GOAL (MAXIMUM 240 CHARACTERS) [To develop and utilize the human and natural resources of the Senegal River Basin for increased incomes and food production.]							
16. PROJECT PURPOSE (MAXIMUM 480 CHARACTERS) [To assist the Senegal River Basin community develop a continuing capacity for carrying out adaptive agricultural research.]							
17. PLANNING RESOURCE REQUIREMENTS (staff/funds) Design officer, Agricultural economist, research administration, and Agronomist. <div style="text-align: right;">\$24,000</div>							
18. ORIGINATING OFFICE CLEARANCE Signature: <i>Joseph M. Anardians</i> Title: OMVS Coordinator						19. DATE DOCUMENT RECEIVED 11 AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY MM DD YY <input type="checkbox"/> 06 <input type="checkbox"/> 11 <input type="checkbox"/> 77 <input type="checkbox"/> 06 <input type="checkbox"/> 20 <input type="checkbox"/> 77	
AID 1330-2 (3-76)							

AGRONOMIC RESEARCH PROJECT IIPID1. Summary of the Problem and Proposed Response

This project proposes to assist the Senegal Basin community develop a continuing capacity for carrying out adaptive research suited to the needs of poor farmers along some 1,000 kilometers of the Senegal River. Basic research (plant genetics, etc.) for the foreseeable future is to be left to the international research centers and those of the more scientifically advanced countries.

The three riparian States of the Senegal River - Mali, Mauritania and Senegal - have formed a regional development organization known as the Organisation pour la Mise en Valeur du Fleuve Sénégal (OMVS). Its mandate is to realize an integrated development of the Basin's resources in order to:

- Enable these States meet their food needs and reduce dependence on foreign food imports;
- Raise the standard of living of the Basin's inhabitants; and
- Promote a take-off of the Basin's economy by rational use of water and land resources, thus assuring population stability and social and political tranquillity.

A major problem for this overwhelmingly agricultural area is the harsh environment which seems to doom the population to successive natural catastrophes. The major constraint is the low quantity and high variability of rainfall. The region is characterized by cyclical periods of drought, and the temperature ranges are such that even in the short period during which agriculture is possible in normal years, there are severe limits on the crops which can be grown. In addition, soils are generally poor, in many cases lacking essential nutrients, and farmers for the most part follow subsistence farming practices using rudimentary agricultural techniques which provide rare surpluses in good years and frequent deficits in most years.

To overcome the range of climatic and cultural constraints affecting the Basin's agricultural production, the OMVS established an Agronomic Research Project. With UNDP assistance, it became operational in July 1970. Its objectives were to define the agricultural potential of the Basin, with a view toward translating results into

improved and integrated development programs, and to conceive and execute programs in adaptive research and field trials to promote increased productivity for production programs. Results obtained are to be used on almost 400,000 hectares of irrigated perimeters which are planned for development by the year 2012.

During the past 7 years, this project has obtained significant results in data gathering on the environment, on responses of cereal varieties to local conditions, on plant and pest problems, and on a wide range of factors which affect agriculture throughout the Basin. Research was carried out primarily by expatriate technicians located at several dispersed centers in the 3 countries.

Despite its successes, the project has been plagued with administrative difficulties. In general, the lack of assured financing was the principal factor in perpetuating a cycle of disruptions. Because of budget restrictions various programs were abandoned or reduced; staff housing and storage facilities were either not built or provided only in the most limited way; expatriate researchers were saddled with administrative matters which counterpart personnel should have dealt with; few counterparts were ever assigned to the stations, often because there was no housing for them and their families; and the shrinking corps of foreign experts increasingly chose to live in and commute from Saint-Louis instead of at the centers because of inadequate infrastructure, uncertain operational funds, and shortages of personal and professional necessities.

As a result, OMVS and UNDP agreed that a new program had to be launched in 1978, with each center managed by and responsible to its own nationals. The substantive program, however, including all donor assistance would still be administered by OMVS. The research objectives, cost estimates and host country contributions for a new four-year program were presented to the Club des Amis meeting at Ottawa, Canada, in May 1977. It projects a requirement for over 20 experts, phased over the 4-year period, construction of furnished houses, plus farm buildings and improvements, vehicles and equipment, and an operations budget, all of which total about \$10 million. The counterpart contribution, mostly in kind, but including some national salaries is estimated to be \$5 million.

It is not yet certain what response the respective donors will make to this request. At this time, it appears that UNDP may contribute up to \$300,000 per year to cover a portion of expatriate operational costs, and that France and Canada might be willing to provide the majority of experts and research personnel.

OMVS has expressed its concern to AID, however, that in the new project there will be continuing administrative difficulties, unless a construction program is undertaken first and an assured budget provided for local operating costs in support of the African personnel. Given the uncertainties of what other donor support will indeed be forthcoming, this PID includes funds for about 70% of the assistance program sought, including technical assistance. While the full amount may not be necessary if other donors grant sufficient technical assistance, it is highly recommended, nevertheless, that these be used to permit the OMVS Research Program to develop a professional relationship with the agricultural faculty of a U.S. University. Such a relationship would add stability to what must be a long-term program; it would provide a continuing source of expertise to whom young African agricultural researchers could address themselves as necessary. The continuing presence of U.S. technicians would add a healthy dose of scientific rigor to a program which at present is notably anaemic in this respect. Thus, the U.S. contribution would include one U.S. technician for each of 3 major centers plus TDY consultations (primarily of graduate students), operational costs for the program, equipment and vehicles, training/observation for African officials in the program, and a research farm construction and improvement program.

Total project life would be funded through FY 1982, with all disbursements completed late in FY 1983. Although this is proposed as a new start in FY 1979, the recommendation is made that \$1.0 million be financed in FY 1978 as an amendment to the existing Agronomic Research Project which was scheduled for termination in FY 1977. (This is discussed further under issues.)

Assumptions

Development of a permanent indigenous research capability requires competent and dedicated Africans to man the several remote research centers. There have been very, very few such specimens heretofore in the OMVS program. Officials of OMVS and its Member States claim, however, that priority assignment of personnel is to be given to this program in order to Africanize it as soon as possible. The assumption is made that the rhetoric will be matched in reality before the nominal end of the project in 1983.

A further assumption is made that although continuing costs of running these centers will be beyond the budgetary availabilities of OMVS and Member States for a considerable number of years, donors will sustain the centers as long as results warrant such support.

Alternatives

Improvements in agricultural production and productivity in the Senegal Basin as elsewhere depend on continued research in seed varieties, cultural practices, and furtherance of man's ability to understand and control his environment. This requires research; there is no alternative. The research itself can be carried out in a variety of ways, but there appears to be no better proposal than that made by OMVS, to wit, that a concerted and coordinated regional project be carried out with multilateral support.

Beneficiaries

The direct benefits of this project are intended for OMVS and the riparian state research centers. Results of that research, however, are for application by the farmers living in the Basin, and most of whom are among the world's poorest majority.

Spread Effect

The primary purpose of the research program is to develop packages of technology suitable for use by the average farm family in the Senegal River Basin. To ensure that these results do indeed get translated into action programs, the national rural development agencies in each of the respective countries (SONADER in Mauritania, SAED in Senegal, and OPI in Mali) have begun working with OMVS in pre-extension programs either at the major facilities or at supporting centers (usually in adjoining villages or on irrigated perimeters which were developed by the national Governments). In addition, OMVS personnel travel widely throughout the Basin to observe local practices; results of each station are sent to other stations for duplication and experimentation; and research results are published and distributed for use by extension agencies, other researchers, and agricultural ministries (to be used, for example, in seed multiplication farms). Whereas the translation of research results into action programs was one of the weaknesses of the earlier Agronomic Research Program - primarily because the total program was managed by foreign experts - control of the centers by host country nationals and responsiveness of the national directors to their own Government agencies was deemed necessary for incorporating results into national production programs.

The project itself, however, is not expected to be duplicated, although some of its features may be followed in other basin development programs in Africa.

2. Financial Requirements and Plans

Cost estimates of this project were prepared by national officials of the 3 riparian States, in session with OMVS officials and advisors. They are based on experience derived from the existing Agronomic Research Project, and appear to be reasonable equivalents of AID cost estimates. Their total projections show a requirement for about \$10 million in foreign assistance, divided over a four-year period, and distributed by country on a line item basis. The OMVS members have calculated their respective contributions which total almost \$5 million for personnel and existing facilities. This appears inflated but reflects a sincere attempt to collaborate in development rather than to be a passive recipient.

Pursuant to the practice generally followed for the RLDC's, grant financing is proposed for the entire program.

3. Development of the Project

This project has two major facets: initial construction and an operational research program. A logical phasing requires that the construction program begin as soon as possible so that technical personnel can move directly into the centers to assume their duties. Despite the OMVS desire to begin the new project in CY 1978, USG budget procedures preclude the possibility of AID's financing farm housing and improvements in 1978 from the FY 1979 AID budget. The opportunities for reimbursable financing are equally non-existent. The recommendation is made, therefore, that \$1.0 million be added to the existing Agronomic Research Project for the first phase. Development of the plans, section 611 Certification, the environmental impact statement and implementation of the total construction package could be handled by OMVS, the AID/OMVS Office, Dakar, and one REDSO engineer. Preparation of plans, bid documents, and a PP amendment could be completed by end January 1978, and all construction completed before the end of the year under an OMVS contract. One contract equipment technician will be necessary full time, and the REDSO engineer can provide periodic support for several days at a time over the next 6-9 months. The second facet, the operational research program, requires a two-man team (research administration and agronomist from a U.S. University to review the OMVS proposal and the program carried out over the past 7 years; to touch base with other donors on their experience and plans in this program; and to work with the OMVS/AID office in Dakar in preparing a PRP and PP. The tentative date for submission of a PRP is March 1978, and the PP in August. A REDSO design officer and/or an agricultural economist may also be necessary in mid 1978 for no more than 6 weeks to help prepare the final PP.

4. Issues

The only issue in this project is whether AID should extend the predecessor project for one more fiscal year in order to accommodate the construction program needed as a base for this project. It is the field view that this approach would be imprudent only if the OMVS program were not assured of continuing. Before obligation of these funds, however, AID will be able to satisfy itself that whether or not there is a follow-on AID project in FY 1979, other donors' intentions would warrant such an input in FY 1978.

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT IDENTIFICATION DOCUMENT FACESHEET TO BE COMPLETED BY ORIGINATING OFFICE	1. TRANSACTION CODE <input type="checkbox"/> A = ADD <input type="checkbox"/> C = CHANGE <input type="checkbox"/> D = DELETE	PID 2. DOCUMENT CODE 1
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3. COUNTRY/ENTITY OMVS	4. DOCUMENT REVISION NUMBER <input type="checkbox"/>
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5. PROJECT NUMBER (7 DIGITS) <input type="checkbox"/> 628-0603 <input type="checkbox"/>	6. BUREAU/OFFICE A. SYMBOL: AFR B. CODE: 06	7. PROJECT TITLE (MAXIMUM 40 CHARACTERS) <input type="checkbox"/> CUMA Test Program <input type="checkbox"/>
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8. PROPOSED NEXT DOCUMENT A. <input type="checkbox"/> 3 = PRP <input type="checkbox"/> 3 = PP B. DATE: MM YY 0 3 7 8	10. ESTIMATED COSTS (\$000 OR EQUIVALENT, \$1 =) FUNDING SOURCE: AID APPROPRIATED: 2,200 OTHER: _____ HOST COUNTRY: _____ OTHER DONOR(S): _____ TOTAL: 2,200
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9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION a. INITIAL FY: 7 9 b. FINAL FY: 8 1	
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11. PROPOSED BUDGET AID APPROPRIATED FUNDS (\$000)							
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. FIRST FY 79		LIFE OF PROJECT	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	H. GRANT	I. LOAN
(1) SH	122 B	011	-	1,120	-	2,200	
(2)							
(3)							
(4)							
TOTAL				1,120		2,200	

12. SECONDARY TECHNICAL CODES (maximum six codes of three positions each)
 031

13. SPECIAL CONCERNS CODES (MAXIMUM SIX CODES OF FOUR POSITIONS EACH) BS COOP TECH	14. SECONDARY PURPOSE CODE
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15. PROJECT GOAL (MAXIMUM 240 CHARACTERS)
 To develop and utilize the human and natural resources of the Senegal River Basin for increased incomes and food production.

16. PROJECT PURPOSE (MAXIMUM 480 CHARACTERS)
 To test and evolve a set of model farmer cooperatives as the basis for launching a major cooperative expansion program.

17. PLANNING RESOURCE REQUIREMENTS (staff/funds)
 Design officer, agricultural economist, equipment specialist, anthropologist, and agricultural engineer. \$30,000

18. ORIGINATING OFFICE CLEARANCE Signature: <i>Joseph M. Suardiano</i> Title: OMVS Coordinator Date Signed: MM DD YY 0 6 1 1 7 7	19. DATE DOCUMENT RECEIVED BY AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY 0 6 2 0 7 7
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PROJECT IDENTIFICATION DOCUMENT

CUMAS

(Agricultural Equipment Cooperatives)

1. Summary of Problem and Proposed ResponseA. The Problem

The introduction of intensified agricultural practices, expanding irrigation perimeters, and multiple cropping in the Senegal River Basin requires that farmers mechanize farm operations. Without mechanization there is insufficient time to harvest and thresh one crop and then clear and prepare the fields in time to meet planting schedules for the next crop.

B. Proposed Response

The purpose of this project is to supply on an experimental basis small mechanized implements to farmers organized into working groups. In 1976, OMVS began a research program with 2 farmer groups, labeled CUMAs (Cooperatives for the Use of Agricultural Machinery). The objective of the existing CUMA research program is to study the techniques of introducing autonomous mechanized units into a rural milieu. The study covers aspects related to cooperative organization, utilization and maintenance of equipment, new approaches to pre-extension field work, and an assessment of how well standard manufactured equipment is adapted to local conditions. AID supported this project by financing the equipment and advisory services of a technician to assist in procurement and ensure initial servicing. Working in conjunction with the Senegalese national Organization for the Development of the River Valley (SAED), OMVS sponsored establishment of two pilot CUMAs, one at Dagana, and another at Guede. SAED and OMVS signed agreements with the producer groups to supply essential services and materials needed by the CUMAs to assure a solid beginning. Two bank accounts were opened by each CUMA in order to keep separate funds needed on the one hand for capitalization and amortization of equipment, and on the other hand funds for ordinary operating expenses.

The Dagana CUMA was created to study the practical problems of introducing a mechanized unit into a large irrigated perimeter (a 105 hectare portion of a perimeter which includes 4,500 diked hectares). The CUMA is composed of seven groups of 15 farmers each. A management council was formed with each group having a representative. The equipment supplied to the CUMA was:

- 2/3 cost of harvester/thresher
- one large tractor, 88 HP
- one small tractor, 48 HP
- one plow, disk type
- one spiked harrow
- one ridge plow
- one harrow, 18 disks
- one harrow, 24 tandem disks
- one cultivator
- one seed driller
- one farm trailer
- eight hand pulverizors

Total cost was \$85,000.

The Guede CUMA was formed to study the problems posed by introducing a mechanized unit with minimum equipment into a small perimeter (50 hectares) with double cropping. The CUMA is composed of 25 members total with a Management Council of 5 members. The equipment supplied the coop is as follows:

- 1/3 cost of harvester/thresher
- one farm tractor, 47 HP
- one plow, disk type
- one disk harrow
- one rotovator
- one seed driller
- one farm trailer
- one grader (wheeled)
- four hand pulverizors

Total cost was \$35,000.

For optimum multiple cropping it is necessary to clear the fields immediately after harvest in order to prepare for the next planting. Tests have shown that average allowable time between crops cannot exceed 50 days, and that without mechanical assistance the amount of hectares planted for the next crop would be limited in relation to the number of workers available. It takes 30-35 days to harvest and prepare one hectare by manual labor, whereas with the assistance of mechanized equipment it takes only 2 hours per hectare to finish the operation.

Although the first campaign in 1976 was incomplete in some aspects, there was enough information/results to prove encouraging. In fact the Member States are anxious to launch into a full scale program at this time. AID and OMVS believe it prudent to do more experimenting with a larger sample. The Basin is a very large and diversified area. It contains several ethnic groups, different crop calendars, marked climatic differences, etc. Given the range of variation, a pilot project is proposed to test further for differences in organizational approaches, stimuli needed by different tribes, management and maintenance capabilities, costs in different soils and climates and, especially, farmer attitudes and willingness to participate in the cooperative program.

AID/OMVS proposes under the pilot project to help establish up to 6 CUMAs in Senegal, 6 in Mauritania, and 3 in Mali. A lesser amount in Mali is considered adequate for the relatively restricted area planned for irrigated development (only 45,000 hectares out of the total 400,000 planned within the Basin scheme).

This project will be a pilot effort to ascertain the acceptability of CUMAs, define the proper mix of inputs, prove financial feasibility for and to farmers, and determine what implements/materials can be made and/or repaired locally. The relative success of the two trial CUMAs and recent developments in Asia of small, simple, readily available machines at modest prices lead OMVS to believe the CUMAs have significant application in the Senegal River region.

C. Description of the Proposed Project

The project will include (1) three advisors in agricultural engineering, equipment repair, and cooperative administration, (2) provision of farm equipment and spare parts, (3) training, and (4) operating expenses. The advisors will assist the interested farmer groups to organize, procure proper equipment, and employ appropriate techniques associated with mechanized farming. Short-term training within the region will be given to selected members of each co-op to assure competence in organization, financial accountability, and maintenance and repair of equipment.

D. Estimated Project Outputs

1. Formation of 15 CUMAs;
2. Forty-five farmers trained in multiple cropping, finance/organization, and equipment management;
3. On-the-job training programs established for CUMA members;
4. Double and triple cropping on CUMA lands.

F. Estimated Disbursement Period

FY 1979 to FY 1982.

G. Major Assumptions Pertinent to Project Success

1. The farmers are interested in mechanizing their farm operations;
2. The needed farm implements will be locally available and economically feasible;
3. The increased production will be sufficiently profitable to warrant the increased farmer inputs.
4. OMVS and national extension agencies will provide agricultural expertise for crop production per se.

H. Activities by OMVS, OMVS Member States, Other Donors

OMVS will participate with AID/OMVS by making all arrangements with host country organizations and in general assuming responsibility as project manager. FAO has participated in the research program and may be willing to continue in providing technical assistance.

I. Realistic Alternatives

None.

J. Major Beneficiaries

The farmers who are willing to form CUMAs will be the direct beneficiaries of this project. How they will be determined is not yet clear.

K. Spread Effect

The experience and knowledge gained during the pilot period of this program will enable OMVS to expand the project to include the majority of the farmers in the Basin.

II. Financial Plan

The best estimate of proposed costs by major components are as follows:

Personnel	\$720,000
Training	100,000
Equipment	800,000
Other Costs	<u>580,000</u>
	\$2,200,000

AID financing will be on a grant basis for the total project. After the initial period, when OMVS takes over the project, a system of reimbursement financing will be arranged.

III. Development of the Project

Development of the project will require a team composed of one agricultural engineer, an agricultural economist, an equipment specialist, and an anthropologist. (The views of a specialist in appropriate technology would also be especially useful.)

Because there will be a great deal of overlap between this project and the Agronomic Research Project II, in terms of geographic areas and organizational relationships, a useful approach might be to have a joint team develop both projects, either concurrently or sequentially. Submission of the PRP is planned for March 1978, and the PP in August.

IV. Policy or Programmatic Issues

Should the AID money be provided to CUMAs on a reimbursable basis? During the design of this project the agricultural economist should calculate the feasibility of establishing a fund from which the equipment would be procured and which would be replenished by farmer cooperatives.

COUNTRY/PROGRAM: OMVS

PERIOD COVERED:

DATE: June 1977

D. Mission Evaluation Schedule for FY 1978 and FY 1979

(1) Project Title & Number/Subject	(2) Last Evaluation Submission Date	(3) Number of last PAR (if applicable)	(4) Date of Submission FY 78 and/or FY 79 Evaluation	(5) Period Covered Next Evaluation	(6) Remarks
Agronomic Research I 628-0616	8/77	-	6/78	7/77-6/78	
Crop Development Program 628-0602	-	-	1/79	1/78-12/78	
Matam Irrigated Perimeter 628-0701	-	-	1/79	1/78-12/78	
Diagambal Irrigated Perimeter 628-0702	-	-	5/79	7/78-5/79	
Environmental Assessment 625-0617	-	-	5/78	4/77-4/78	
Mali First Region Roads 628-0801	-	-	1/79	1/78-12/78	
Organizational Aid to SONADER 628-0601	-	-	4/79	6/78-4/79	
Data & Institutional Development 628-0506	-	-	1/79	1/78-12/78	