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**AGENCY FOR  
INTERNATIONAL  
DEVELOPMENT**



# **ANNUAL BUDGET SUBMISSION**

**FY 82**

**USID/OMVS**

**BEST AVAILABLE**

**JUNE 1980**

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

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## FY 1982 ANNUAL BUDGET SUBMISSION

TABLE I - LONG RANGE PLAN BY APPROPRIATION ACCOUNT (\$ Thousands)

<u>Development Assistance</u>	<u>FY 1980 EST.</u>	<u>FY 1981 EST.</u>	<u>Decision Unit</u>			<u>O.M.V.S - Sahel regional</u>			
			<u>FY 1982 REQUEST</u>			<u>PLANNING PERIOD</u>			
			<u>MIN</u>	<u>CURR</u>	<u>AARL</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Sahel Development Program	2,650	10,450	12,140		14,640	16,600	12,800	7,000	8,000
Total Personnel									
USDH	3	3	3		3	4	4	4	4
FNDH		2	3		4	4	4	4	4

TABLE I - NARRATIVEPart I

USAID/OMVS proposes a management strategy which takes into account competing requirements:

- limitations on the number of USDH and FNDH personnel that can be accommodated within predictable ceilings for FY 82 and beyond,
- sharply increased management activity flowing from the inauguration of the Integrated Development Project with its implementation and longer-range planning aspects, and
- project management responsibilities required to service on-going OMVS activities.

The AAPL level envisages major construction activities in the near term in irrigated agriculture and rural roads. The on-going projects in groundwater monitoring, fiscal allocation responsibilities, and agronomic research are common to the minimum and AAPL program levels for FY 1982.

The core element of USAID/OMVS management capabilities will be three USDH staff:

- (1) OMVS Coordinator who will have overall program management responsibilities, under the guidance of the USAID/Senegal Mission Director, plus limited Program functions.
- (2) OMVS Program Officer who will have the normal Program functions plus management responsibilities for fiscal allocation and agronomic research.
- (3) Water resources development will be combined into a single unit of management for purposes of USDH monitoring. The Groundwater Monitoring Project and the Integrated Development Project will be the responsibilities of the Water Resources Specialist.

To support the increased program level and the intensification of operational management responsibilities will require an increase of the FNDH staff level. An additional FNDH secretary will be added to the one already on board by end FY 1981. They are essential to the general office requirements due to the increased program level and implementation requirements.. Additional secretarial and clerical assistance will be contracted locally on an as-needed basis.

The USDH Water Resources Specialist will have overall responsibilities for one on-going project as well as the new long-term integrated basin initiative. This individual will be assisted by a technical FNDH project supports person with experience in irrigated agriculture who will have some management responsibilities for the Groundwater Monitoring Project. This will release the Water Resources Specialist for more immediate focus upon the Integrated Development Project with particular reference to irrigation engineering and water control in irrigated perimeters.

The management needs of the program office will increase with the AAPL level of activity. Staffing requirements will be increased by one FNDH administrative assistant assigned to the USAID/OMVS program office. Duties will include preparation of translations, routine AID documentation (PIO/P's), and certain support tasks for monitoring the Agronomic Research Project with its institutional contracts. This will relieve some operational project management responsibilities of the Program Officer.

The immediate impact program of the Integrated Development Project places a heavy emphasis on construction of roads and irrigated agricultural perimeters for the near term. USAID/OMVS will engage the services on a contract basis of two civil engineers to have direct oversight responsibilities for construction for roads, water control facilities, and buildings.

One of the main on-going requirements of the Integrated Development Project will be the economic justifications of the several activities moving in parallel with the immediate impact program. Fundamental to USAID/OMVS analytical capabilities will be the addition on contract of an economist experienced in irrigated agricultural development and river basin planning.

USAID/OMVS recognizes that the day-to-day management requirements of the Integrated Development Project will require a project management/support entity to meet the operational requirements of the U.S. implementation agents for the project. In keeping with broader Mission policy of contracting out project support services, USAID/OMVS foresees the consolidation of these activities and detailed project implementation requirements to a U.S. management consultant firm. Such a firm will serve as consulting supervisor to AID and the OMVS of the implementing agents for the discrete project activities. In subsequent years as the consulting supervisor gains increased familiarity with development requirements of the basin, USAID/OMVS would look forward to an increasing capacity for program conceptualization and design by this group. The identification at the outset of a suitable agent to handle project implementation and consulting supervision services, allowing for a more unified package approach, would increase management efficiency still further.

Part II

The Integrated Development program will place a heavy burden on the management and analytical capabilities of the OMVS and the member states. AID programs will emphasize staff development and will make full use of U.S. institutional contractors in full coordination with inputs from other donors.

In the outyears, FY's 1983-86, the proposed budget increase for FY 83 relates chiefly to final funding of the immediate impact action segments of the Integrated Development Project. Project monitoring and implementation requirements will be at their heaviest in order to keep the pipeline to a manageable size. The personnel staffing levels during FY 84-86 do not envisage a decrease despite a reduction in overall funding projections for these years. Drawing down the pipeline from prior year funding will continue to place heavy project management demands on USAID/OMVS. New obligations, albeit at a reduced rate, are projected in large part towards the medium- and long-term studies required by all donors to valorize the investments in capital infrastructure. The combined effect of this will be to maintain USDH and FNDH staffing projections at constant levels through 1986.

TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION ACCOUNT  
 FY 1980 TO FY 1982  
 (\$ thousands)

Decision Unit OMVS-Sahel Regional

<u>APPROPRIATION ACCOUNT</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FISCAL YEAR 1982</u>		
			<u>MINIMUM</u>	<u>CURRENT</u>	<u>AAPL</u>
<u>SH</u>					
625-0605 O.M.V.S. Agronomic Research II (G)	900	1,500	2,900		2,900
625-0617 O.M.V.S. Environmental Assessment (G)	250				
625-0620 O.M.V.S. Data & Institutional Development: Basin Survey & Mapping (G)	1,500	2,100			
- A. OMVS Fiscal Allocation Responsibility (G)		500			
- B. OMVS Groundwater Monitoring (G)		1,260	2,240		2,240
625-0621 O.M.V.S. Integrated Development (G)		5,090	7,000		9,500
625-0929 Planning Management and Research (non-add.)			(200)		(300)
TOTAL SH	2,650	10,450	12,140		14,640

**TABLE IV PROJECT BUDGET DATA**

NUMBER	PROJECT TITLE	OBLIGATION DATE		DATE OF NEXT PLANNED ROUTINE EVAL.	CIMA PIPELINE AS OF 9/30/79	FY 1980			FY 1981			FY 1982 APPL. OBLG.	FORWARD FUNDED TO (MO/YR)	FUTURE YEAR OBLIGATIONS	
		O/R	INITIAL			FINAL	OBLG.	EXPEND.	CIMA PIPELINE	INBLG.	EXPEND.				CIMA PIPELINE
0605	OMVS Agronomic Research II	G	78	83 *	423	900	873	450	1,500	1,258	492	2,900	12/82	1,640	
0617	OMVS Environmental Assessment	G	76	80	250	250 (d)	480	20	-	20	-	-	-	-	
0620	OMVS Data & Institutional Development (c)	G	80 (a)	81 *	(2,800)	1,500	(4,200)	(100)	(3,860)	(3,423)	(537)	(2,240)	6/85	-	
	Basin Survey and Mapping	G	80 (a)	81 *	2,800	1,500	4,200	100	2,100	2,200	-	-	-	-	
	A. OMVS Fiscal & Allocation Responsibility	G	81	81	-	-	-	-	500	323	177	-	-	-	
	B. OMVS Groundwater Monitoring	G	81	82	-	-	-	-	1,260	900	360	2,240	6/85	6	
0621	OMVS Integrated Development	G	81	86*	-	-	-	-	5,090	600	4,490	9,500	3/83	38,700	
	(a) prior funding under functional appropriation (\$4 700)														
	(b) prior funding under Section 496, African Development Program (\$1,200)														
	(c) non-add, sub-projects used in totals														
	(d) plus \$32 already obligated from PM & R for tota \$282														

New Project Narratives(1) Project Number: 625-0620BProject Title: OMVS Data and Institutional Development -  
Groundwater MonitoringAppropriation Amount: SHProposed Funding: LOP \$3,500

	<u>FY 81</u>	<u>FY 82</u>
TA SH pm	160	
Vehicles	220	
Equipment	90	
Materials	40	
Drilling contracts	165	100
Leases (warehouse, offices)	375	
Vehicles O & M	10	20
Service contracts	80	
Subsistence	20	100
Training observation & LT	80	
Other	20	20
	<hr/>	<hr/>
Total	1,260	240

Project Purpose: The purpose of the overall OMVS Data & Institutional Development Project is to assist the Senegal River Basin Development Organization (OMVS) with technical assistance, staff development, and data collection in order that the organization can better plan and manage the development activities occurring in the Senegal River Basin. The specific objective of this subproject is groundwater monitoring, data collection, and analysis in accordance with OMVS water management objects of the OMVS.

At present several diked irrigated perimeters are under construction or have recently been completed with assistance from several donors (including AID, IBRD, Kuwait, FRG, and FAC) on a magnitude approaching \$50 million. Perimeters for which the OMVS and the member states have plans to seek funding during the next decade are in the \$300-400 million range for approximately 40,000 ha. Despite these current and planned

investments, though, little attention has been given to water management. Evidence of this is: (1) Almost no measurement of water deliveries to irrigation projects is made, thus making it impossible to plan efficient use of water. (2) Very few canals are lined. High seepage losses occur, possibly as much as half the water pumped on some projects. (3) Very few measurements on groundwater levels are now being done. As a consequence water logging and salinization problems are already observable in some perimeters. The relation between groundwater levels, river levels, water applied, and salinization are not fully known. Knowledge of these relations is needed to design projects, especially drainage systems. Good water management of irrigated perimeters includes accurate measurement of gross pumpage, water used by crops, evapotranspiration, losses by leakage from canals and by deep percolation from irrigated fields, and monitoring of any buildup in groundwater levels and salinity that may result from such losses. In the absence of good management large investments in irrigated perimeters can be wasted within a few years by water-logging and/or salinization.

Previous groundwater studies have shown that the Senegal River and its alluvial aquifer provide an important source of recharge to regional aquifers which sustain the water supplies of hundreds of domestic and livestock wells. The alluvial aquifer is alternately replenished by floods from the river during high water and then depleted by groundwater flow to the river during dry seasons. Such drainage from the alluvial aquifer is the principal source of the dry season discharge of the river downstream of Bakel. These relationships are not well understood.

The Diama and Manantali dams will change the regime of the river and the groundwater in contiguous aquifers. The loading effects of the Diama reservoir could cause shallow saline groundwater to migrate laterally toward areas proposed for irrigated perimeters which could aggravate problems caused by irrigation itself. The alterations in the flow regime by the Manantali dam could result in a net loss of recharge to the alluvial aquifer and indirectly to contiguous regional aquifers.

This project will gather data and monitor the above relationships, thus facilitating better understanding of these issues. It will begin to develop a capability within the OMVS and the member states for monitoring and analysis. The duration of the project is five years. The work will be concentrated in the Senegal valley between Kayes and St. Louis and will include a strip 20-25 km wide on either side of the valley. The project will be staffed, managed and operated by the OMVS. Technical assistance will be provided for data interpretation and analysis in such fields as water quality, groundwater hydraulics, water budget and salt balance analysis, and mathematical modeling.

(2) Project Number: 625-0620A

Project Title: OMVS Data and Institutional Development - Fiscal Allocation Responsibility.

Appropriation Amount: SH

Proposed Funding: LOP \$500

	<u>FY 81</u>
Technical Assistance ST	197
Training LT	85
Commodities	30
Operating expenses	25
Evaluation	30
Observation tour	40
Contingency & Inflation	93
	<hr/>
Total	500

Project Purpose: The purpose of the overall OMVS Data and Institutional Development Project is to assist the Senegal River Basin Development Organization (OMVS) with technical assistance, staff development, and data collection in order that the organization can better plan & manage the development activities occurring in the Senegal River Basin. The specific objective of this sub-project is to increase within the OMVS capabilities for rational management of water, land, and human resources using generally accepted methods of economic and financial analysis applying the Separable Costs Reimbursable Benefits methods of cost allocation.

In the broadest sense the OMVS development program has identified investments over the 50-year plan period on the order of \$4 billion. These include dams, ports and navigation, and hundreds of thousands of hectares of irrigated perimeters. The OMVS and its member states intend that the development of the basin will be an important factor in restructuring national economies.

The OMVS has recognized that it must develop a method of determining how to allocate fiscal responsibility and benefits among the member states. It is clear to the OMVS that the present system of equal contributions by each member state is inadequate for future development programs.

Over the past several years the OMVS has been examining several rational procedures acceptable in the field of cost allocation. In 1974, AID was asked to help develop a cost allocation methodology for OMVS. The OMVS has attached great importance to this work, in particular the modelling by Utah State University, and has requested continued AID assistance to refine the methodology and increase the capabilities of OMVS for interpreting and applying the results.

To achieve its purpose, this sub-project will (1) develop a users' manual for the Separable Costs Remaining Benefits (SCRB) cost allocation mode, (2) identify additional studies required to improve the data base for the model, (3) train OMVS technicians to operate effectively the cost allocation model on an in-house computer, and (4) train OMVS and member state administrators, planners, and decision makers in cost allocation and cost-sharing methods. In general the project combines technical assistance, training, commodities, and operational support to promote increased organizational effectiveness which will be demonstrated by the effective execution of projects in the development plan for the basin, the continued financial and political support of member states, and continuing/increased financial assistance from external sources.

Technical assistance will be provided in economics, engineering, data analysis, and computer programming to refine and update the SCRIB model developed for the OMVS so that OMVS technicians can run the model on the project computer in Dakar. A second element of technical assistance will cover economics and engineering requirements to review the current input data for the model & identify additional studies needed to improve the data base. Additional technical assistance will be required to assist the completion of the users' manual and training materials for the SCRIB method.

Training activities involve a combination of short-term courses, seminars, and on-the-job apprentice-type activities. The second area of training will be seminars for model users.

Commodities include a mini-computer, related software, and miscellaneous operating materials.

The project will be implemented over a three-year period, fully funded in the first year of obligation, at a life-of-project total of \$625,000. The AID project component will not exceed \$500,000 while the OMVS element will be approximately \$125,000.

(3) Project Number: 625-0617

Project Title: OMVS Integrated Development

Appropriation Amount: SH

Proposed Funding: LOP \$47.3 million

	<u>FY 81</u>	<u>FY 82</u>
<b>Construction</b>		
Rehabilitated perimeters	2,000	2,000
New perimeters		2,500
Rural roads	1,000	1,500
Livestock perimeter		300
Training facilities		400
 <b>Personnel</b>		
Construction	300	250
Health posts	200	400
Institutional development	100	300
Policy reformation		100
Training		
OMVS and country officials	90	300
Indigenous entrepreneurs/ private sector	100	150
Management services/AID contract	200	350
 <b>Supplies &amp; Equipment</b>		
Agricultural perimeters	450	300
Roads	350	450
Health posts	300	200
	<hr/>	<hr/>
<b>T O T A L</b>	5,090	9,500

The national development plans of the OMVS member states call for the OMVS to be the coordinating mechanism for the development of the Senegal River Basin. The OMVS itself has primary responsibility for three main elements of infrastructure: planning, execution, and obtaining funding for Diama Dam, Manantali Dam, and facilities for ports and navigation.

Most funding for the dams has reportedly been secured. Irrigation development is the chief justification for constructing dams on the river. Consultations with certain potential donors, however, demonstrate the clear need to develop a satisfactory strategy and program of action for utilizing the water resources after the dams are built and will be the essential ingredient in valorizing the large multi-donor investment in the basin development program.

A well-planned, integrated program designed to establish and maintain a satisfactory rate for irrigation in the basin thus becomes a fundamental requirement. The underlying goal of the Integrated Development Project is the improvement of the well-being of the basin population. This is best achieved through a phased, integrated exploitation of the water, land, and human resources potential of the basin. The huge expenditure required for the capital projects would not be economically feasible without such a program.

The OMVS Integrated Development Project for the development of the Senegal River basin is an integrated program which approaches the development priorities from several perspectives. It must be noted at the outset that river basin development requires a multi-faceted approach even with the AID framework, so considerable AID resources flow, and will continue to flow, to the basin through the programs of the three bilateral AID missions.

The new project is directed first and foremost to the beneficial utilization by the basin population of the water resources made available by the dams. Its program of action is planned to assist the OMVS mobilize external resources for the capital investments themselves and "downstream" development activities.

In terms of time perspectives, the project foresees three elements unfolding in parallel: (1) an immediate three-year action impact program for expanded and improved production, transportation, and health facilities in coordination with related activities of other donor agencies; (2) a medium-term design phase to finance and implement planning and feasibility studies necessary for further such development funded by the international donor community; and (3) an analysis and investigation of the key longer-term, more complex requirements for multi-donor participation in, and support for, developmental impact studies, institutional strengthening, and policy reforms necessary to ensure continuing economic development in the basin.

The specific project objectives over the initial five-year period include five main components. The first is a three-year immediate action impact program, complementary with other donor programs, consisting of construction activities which will be available for financing by 1981. These include rehabilitation of existing irrigated small perimeters, construction of new village-specific small perimeters, essential rural roads,

health surveillance/monitoring/care posts equipped and staffed, and a partially irrigated experimental livestock feeding/forage perimeter.

The second specific project objective is to help finance and implement on a multi-donor basis the necessary planning, prefeasibility, and feasibility studies designed to acceptable standards for international financing. The major aspect of this will be to arrive at a rate and pattern of medium- and longer-term basin development and appropriate multi-donor assistance that can be projected to be sufficient both to meet the basic human needs of the region and to valorize the major investments in infrastructure. This will require a more probing, longer-term examination of the areas addressed in the immediate action impact program.

The third pillar of the project is to finance and implement, in coordination with other donor agencies, a series of investigations into the most important longer-term issues pertaining to integrated development of the basin. Briefly mentioned, these include: (1) both broad scope and detailed planning for integration of the basin's traditional livestock activities, transhumant and sedentary, into a development framework which presently contemplates a focus upon irrigated agriculture; (2) reforestation planning from both environmental and energy perspectives, in both the medium-term aspect of rational exploitation of woodlands to be inundated and the longer-term aspect of providing reforestation of a scope and quality adequate to meet projected requirements; (3) basin transportation requirements pertaining to general economic progress and considerations of overall energy cost efficiency; (4) reconciliation of water-related control activities with certain strongly established traditions of land tenure and fishing rights; (5) resettlement options for the populations to be displaced by the dams; (6) alternative methods for developing irrigated agriculture with respect to optimum cost effectiveness in terms of capital and operating costs; (7) potential longer-term commercial cropping patterns for the basin; and (8) methods to encourage and stimulate participation of the private sector in basin development.

Fourthly, the program envisages financing, in coordination with other donor agencies, appropriate technical assistance, training, and equipment for the OMVS and allied operating entities of the member states.

The fifth category of assistance will be to join in a coordinated effort by donor agencies to cause the member countries to focus upon, and take corrective action concerning, those domestic and foreign policies which operate as disincentives to the economic and social progress which the countries themselves desire. Among key policies to be reformed are domestic and international marketing restraints, too-low ceiling prices

at the farmgate and consumer level for basic agricultural products, and inadequate budgetary and personnel support for the agricultural sector. This last item must be considered in conjunction with appropriate methods for locating and developing the needed resources.

In conclusion, the program is being specifically designed to complement both the irrigation projects that have been, are being, or will be carried out in the basin and the improved water control potential of the proposed dams. It will provide much of the conceptual framework for future basin development. The program will, moreover, be coordinated with other ongoing or planned institutional developmental activities. Finally, the underlying theme of maximizing involvement of the resources and developmental expertise of the international donor community cannot be overemphasized: It remains at the heart of the entire concept of the Integrated Development Project.

TABLE V - FY 1982 PROPOSED PROGRAM RANKING

OMVS - Sahel Regional

RANK	DECISION PACKAGES/PROGRAM ACTIVITY DESCRIPTION	PIPELINE/ ONGOING/ NEW	LOAN/ GRANT	APPROP. ACCT.	PROGRAM FUNDING (\$000)		WORKFORCE (Number of Positions)			
					INCR	CUM	INCR	CUM	INCR	CUM
							USDH	CUM	INCR	CUM
<b>DECISION PACKAGE MINIMUM</b>										
1.	<u>Pipeline Projects</u>									
	625-0620A OMVS Fiscal Alloc. Responsib.	P	G	SH	(177)	(177)				
	sub-total (non-add)				(177)	(177)				
<u>New and Continuing Projects</u>										
2.	625-0620B OMVS Groundwater Monitoring	0	G	SH	2,240	2,240				
3.	625-0605 OMVS Agronomic Research II	0	G	SH	2,900	5,140				
4.	625-0617 OMVS Integrated Development	0	G	SH	7,000	12,140				
	Basic Workforce				-	12,140	3	3	3	3
	Total Minimum Package & Related Workforce				12,140		3		3	
<b>DECISION PACKAGE AAPL</b>										
5.	625-0617 OMVS Integrated Development	0	G	SH	2,500	14,640			1	4
	Total AAPL Package & Related Workforce				14,640			3		4

DECISION PACKAGE NARRATIVEDecision Unit: OMVS - Sahel RegionalDecision Package Minimum - Current

The OMVS was created in its present form in 1972 by Mali, Mauritania, and Senegal to carry out a development program. This program, adopted by the member states in 1974 from a report entitled "Senegal River Basin Integrated Development Program," encompassed essentially infra-structural activities: (1) Manantali Dam, (2) Diama Dam, and (3) ports and navigation facilities:

(1) Manantali Dam - a multipurpose upstream reservoir of over 11 billion cubic meters capacity for irrigation, power, and navigation. This should provide a firm water supply for (a) irrigation of at least 255,000 ha, (b) maintenance of 300 cubic meters per second flow for navigation, and (c) generation of an annual average of 800 million kwh electrical energy. Costs are not firm. The present estimate with allowance for inflation is on the order of \$500 million. Full financing has not yet been secured, and costs will certainly rise due to inflation in the next several years.

(2) Diama Dam - a low dam primarily to block saline intrusion with planned impoundment of 310 million cubic meters, its main functions include (a) prevention of intrusion of seawater, (b) provision of freshwater primarily for irrigation in the delta area, and (c) facilitation of diversion of river water for urban needs in Dakar and Nouakchott and for selected agricultural use in Mauritania. Full funding is reportedly available, but the linkage question between both dams must be worked out before the last increment of funds from Saudi Arabia will be released.

(3) Ports and Navigation - the construction of a navigable waterway to Mali. The plan envisages provision of navigation between St. Louis and Kayes, Mali for a much greater period of the year plus the construction of nine river ports.

The OMVS charter places responsibility for the above three elements of infrastructure on the OMVS itself. Responsibility for other development activities such as irrigation and roads remains the responsibility of the member state in which such works are located, but the OMVS has responsibility for planning and coordinating such member state development within the basin.

The magnitude of the OMVS infrastructure program, the total cost of which is estimated to be on the order of \$800 million (not including irrigation projects), plus related legal and engineering complexities have prevented consideration of AID participation in the capital projects themselves. The governing strategy statement on the OMVS remains the February 1978 document entitled "U.S. Assistance to the OMVS and the Senegal River Basin." By its very nature river basin development demands a multi-faceted approach, so a significant measure of AID resources reaches the basin via the bilateral programs of the constituent AID missions.

Historically, therefore, AID's assistance to the OMVS concentrated on the organization itself. The minimum assistance package focuses upon projects already underway: fiscal allocation responsibility, groundwater monitoring, and agronomic research. A major basinwide activity which will have been completed by FY 1982 is the survey and mapping of the whole basin. The fiscal allocation project will provide cost allocation services and information very important to the OMVS during negotiation with donors for financing of the major capital projects. The groundwater-monitoring project will be providing an inventory of the relationships between surface water flows and aquifer recharges. Such data are essential in determining to what extent basin groundwater resources can be used, especially once the dams are in place. Once the relationship is defined, it might be possible to achieve economies and expand irrigation projects away from the river where the cost of transporting water from the reservoir would be prohibitive.

As irrigation development is the chief justification for constructing dams on the river, applied research into crop choices, patterns, and practices is essential to valorize the large investments by several donors into the basin development program. AID is continuing assistance to the regional agronomic research effort under OMVS auspices to identify adapted varieties of grains, vegetables, and forage crops. Because OMVS' role in agricultural research is directly linked to the improvement of the farming population in the valley, AID is supporting an on-going program in agronomic research, applied research providing a permanent support mechanism to the 50-year irrigated perimeter development program. This supports the OMVS' goal of reducing high investment costs per hectare and accelerating conversion of rainfed and recession agriculture to irrigated production.

In the broader picture the problems to be addressed are not limited to the OMVS organization itself but entail overall river basin development. This must be done in an integrated fashion. Getting underway is the Integrated Development Project directed in large part towards demonstrating progress in establishing and maintaining a satisfactory rate

of irrigation development in the basin. This is a condition imposed by certain potential donors to the infrastructure projects. AID has recognized that the goal of improving the well-being of the basin population can best be achieved through utilizing the water, land, and human resources potential of the basin. This requires a simultaneous, integrated development of these resources. All major donors recognize that without accelerated, integrated development of irrigation and related infrastructure of the basin, the billion-dollar investment in dams, navigation, and hydroelectric power would not be economically feasible.

This is a multi-faceted program for beneficial utilization of the water regulation and ancillary resources stemming from the construction of the dams during the 1980 decade. To assist the OMVS and basin states mobilize external resources, the program seeks an appropriate balance among the immediate demand for expanded and improved production, transportation and health facilities; the medium-term needs to lay the groundwork for further such development; and the longer-term requirements for particular development impact studies, institutional strengthening, and policy reform to ensure a satisfactory rate of continued development in the basin.

The minimum decision package includes immediate action programs. These include a three-year program in irrigated agriculture (particularly rehabilitation of up to 2,000 ha of existing small perimeters), transportation infrastructure (up to 50 kms of essential rural roads, and startup of four health surveillance/monitoring/care posts. Planning for the medium and longer term cannot wait for the vicissitudes of short-term budget questions because of the long lead time required for developing the conceptual frameworks and refining the areas of investigation. These would include: additional thousands of hectares of new irrigated perimeters; additional hundreds of kilometers of essential rural roads; livestock perimeters to the extent technically and sociologically feasible; development of an integrated health care program; longer-term reforestation planning from the environmental and energy perspectives; training requirements for the operating entities; domestic and foreign policy reform to support the desired social and economic progress. These rubrics encompass such fundamental considerations for long-term, integrated basin development that they must be tackled as soon as possible.

Decision Package AAPL

Our proposed AAPL level concentrates on some limited flexibility in the immediate impact program. The budget differential reflects increased emphasis on several aspects of the three-year impact program of action. An additional 1,000 ha of rehabilitation of existing perimeters will be begun. Ground will be broken for approximately 500 ha of new perimeters. The rural roads to be constructed will be augmented by an additional 30-50 kilometers. Finally, if feasibility studies demonstrate the value of pilot interventions, not more than the first 300 ha of a partially irrigated polder-type experimental livestock-feeding/forage perimeter eventually encompassing 2,000 ha will be undertaken.

**TABLE VI  
PROJECT SUMMARY**

**NUMBER OF PROJECTS**

	FY 79	FY 80	FY 81	FY 82 MIN	FY 82 CURR	FY 82 AAPL
IMPLEMENTATION AT BEGINNING OF YEAR.....	3	3	3	4		4
MOVING FROM DESIGN TO IMPLEMENTATION DURING YEAR.....			3			
DESIGN FOR FUTURE YEAR IMPLEMENTATION.....		3	3			
<b>SUBTOTAL.....</b>	3	6	9	4		4
NUMBER OF NON-PROJECT ACTIVITIES.....						
<b>TOTAL.....</b>	3	6	9	4		4

IMPLEMENTATION AT BEGINNING OF YEAR.....  
 MOVING FROM DESIGN TO IMPLEMENTATION DURING YEAR.....  
 DESIGN FOR FUTURE YEAR IMPLEMENTATION.....  
**SUBTOTAL.....**  
 NUMBER OF NON-PROJECT ACTIVITIES.....  
**TOTAL.....**

**NUMBER OF PROJECTS MOVING FROM DESIGN TO IMPLEMENTATION BY PROJECT SIZE**

	FY 79	FY 80	FY 81	FY 82 MIN	FY 82 CURR	FY 82 AAPL
LESS THAN \$1 MILLION.....			1			
\$1 TO \$5 MILLION.....			1			
\$5 TO \$15 MILLION.....						
\$15 TO \$25 MILLION.....						
MORE THAN \$25 MILLION.....			1			

**AID'S CONTRIBUTION TO LIFE OF PROJECT COST**

LESS THAN \$1 MILLION.....  
 \$1 TO \$5 MILLION.....  
 \$5 TO \$15 MILLION.....  
 \$15 TO \$25 MILLION.....  
 MORE THAN \$25 MILLION.....

**TABLE VII  
OPERATING EXPENSE FUNDED PERSONNEL  
YEAR END POSITIONS**

FUNCTIONS	FY 79				FY 80				FY 81			
	USDH	FNDH	US CONT	FN CONT	USDH	FNDH	US CONT	FN CONT	USDH	FNDH	US CONT	FN CONT
<u>Executive Direction</u>					1				1			
<u>Program Planning</u>	2				1				1			
<u>Project Design</u>												
<u>Project Implementation</u>	1				1				1			
<u>Financial Management</u>												
<u>Mission Support</u>												
<u>Non Mission Specific</u>	3				3				3	2		
<b>TOTAL.....</b>					1				1			
<b>PLUS: PASAs (OE &amp; Program)</b>												
<b>LESS: JAO Details</b>												
<b>MODE Required</b>	3				4				4			

IDs

IDs

IDs

**TABLE VII**

FUNCTIONS	FY 82 MINIMUM			FY 82 CURRENT			FY 82 AAPL			
	USDH	FNDH	US CONT	USDH	FNDH	US CONT	USDH	FNDH	US CONT	FN CONT
<u>Executive Direction</u>	1						1			1
<u>Program Planning</u>	1	1					1	1		
<u>Project Design</u>										
<u>Project Implementation</u>	1	2	2				1	3	3	
<u>Financial Management</u>										
<u>Mission Support</u>										
<u>Non Mission Specific</u>										
<b>TOTAL.....</b>	<b>3</b>	<b>3</b>	<b>2</b>				<b>3</b>	<b>4</b>	<b>3</b>	
<b>PLUS: PASAs (OE &amp; Program)</b>	<b>1</b>						<b>1</b>			
<b>LESS: JAO Details</b>										<b>IDIs</b>
<b>MODE Required</b>	<b>4</b>						<b>4</b>			<b>IDIs</b>

**TABLE VIII**  
**OPERATING EXPENSE SUMMARY - OMVS**

	FY 1979			FY 1980			FY 1981		
	(\$000's)	Related Workyear	Unit Cost	(\$000's)	Related Workyear	Unit Cost	(\$000's)	Related Workyear	Unit Cost
<u>COST SUMMARIES</u>									
US Direct Hire	145.0	3.0	48.3	199.8	3.0	66.6	185.4	3.0	61.8
FN Direct Hire							19.8	2.0	9.9
US Contract Pers.									
FN Contract Pers.									
Housing Expense	36.5	3.0	12.2	70.8	3.0	23.6	80.7	3.0	26.9
Office Operations	107.5	xx	xx	170.1	xx	xx	165.1	xx	xx
Total Budget	289.0	xxx	xxx	440.7	xx	xx	451.0	xx	xx
Mission Allotment	161.8	xxx	xxx	273.2	xx	xx	293.2	xx	xx
FAAS		xxx	xxx		xx	xx		xx	xx
Trust Fund		xxx	xxx		xx	xx		xx	xx

This OE Summary includes only OMVS. It is presented so that the OE level for OMVS can be compared to the program level. The formal OE request with budget detail and supporting schedule is consolidated with Senegal and included in USAID/Senegal's ABS.

**TABLE VIII**

	FY 1982 MINIMUM		FY 1982 CURRENT		FY 1982 AAPL		
	(\$000's)	Related Workyear	(000's)	Related Workyear	(\$000's)	Related Workyear	Unit Cost
US Direct Hire	173.7	3.0	176.4	3.0	176.4	3.0	58.8
FN Direct Hire	20.2	2.0	43.6	4.0	43.6	4.0	10.9
US Contract Pers.	57.8	2.0	90.0	3.0	90.0	3.0	30.0
FN Contract Pers.							
Housing Expense	86.7	3.0	88.2	3.0	88.2	3.0	29.4
Office Operations	220.2	xx	182.7	xx	182.7	xx	xx
Total Budget	558.6	xx	580.9	xx	580.9	xx	xx
Mission Allotment	363.1	xx	377.6	xx	377.6	xx	xx
FAAS		xx		xx		xx	xx
Trust Fund		xx		xx		xx	xx

**COST SUMMARIES**

US Direct Hire

FN Direct Hire

US Contract Pers.

FN Contract Pers.

Housing Expense

Office Operations

Total Budget

Mission Allotment

FAAS

Trust Fund

**TABLE IX - SUPPORTING DATA ON PROPOSED PROGRAM RANKING  
POSITION REQUIREMENTS - FY 19 80- 1982**  
(By Function, Organizational Unit, Position Title and Professional Speciality)

FUNCTION/ORGANIZATIONAL UNIT/ POSITION TITLE/PROFESSIONAL SPECIALITY	DECISION UNIT OMVS - Sahel Regional																	
	FY 1980						FY 1981						FY 1982					
	Minimum		Current		AAPL		Minimum		Current		AAPL		Minimum		Current		AAPL	
	USDH	FNDH	USDH	FNDH	USDH	FNDH	USDH	FNDH	USDH	FNDH	USDH	FNDH	USDH	FNDH	USDH	FNDH	USDH	FNDH
<u>EXECUTIVE DIRECTION</u>																		
Regional Development Officer	1		1															
Sub-total Executive Direction	1		1															
<u>PROGRAM PLANNING</u>																		
Program Officer																		
Assistant Program Officer	1		1															
Secretary																		
Administrative Assistant																		1
Sub-total Program Planning	1		1															1
<u>PROJECT IMPLEMENTATION AND DESIGN</u>																		
Water Resources Engineer																		
Project assistant - Irrigation & Agriculture	1		1															
Secretary																		1
Sub-total Project Implementation	1		1															1
Total Increment	3		3															4
Cumulative Total	3		3															4

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