

## REPÚBLICA DE MOÇAMBIQUE MINISTÉRIO DAS OBRAS PÚBLICAS E HABITAÇÃO DIRECÇÃO NACIONAL DE ÁGUAS

# NHACANGARE DAM AND MAPUTO DRAINAGE/SANITATION PROJECT



**GUIDELINES FOR PROJECT IMPLEMENTATION** 

November 2005

## TABLE OF CONTENTS

LIST OF ABBREVIATIONS	3
1.0 Scope Of This Document	4
2.0 Project Origins and Identification.	
2.1 Project Formulation	4
3.0 Objectives, Results and Activities	5
3.1 Overall Objectives	
3.1.2 Specific Objectives	5
3.2 Project Results	6
3.3 Project Activities	6
3.3.1Nhacangare Dam Component	6
4.0 Project Cost Estimates	7
4.1 Nhancangare Dam	7
4.2 Maputo Sanitation / Storm Water Drainage Project.	8
Cost Item	
5.0 Roles Of Various Implementing Agencies	8
5.1 Project Steering Committee (PSC)	
5.2 The Project Management Unit	
5.2.1 Functions of the PMU	9
5.2.2 PMU composition and staffing	9
5.2.3 Reporting arrangements within the proposed PMU	. 12
6.0 Implementation modalities, controls and audit	
6.1 Role of the local community in the project areas	. 12
6.2 Role of local authorities	. 13
6.3 Ministry of Public Works and Housing / National Directorate of Water	r 13
7.0 Project Implementation Schedule	
8.0 Procurement Procedures for the Project	15
9.0 Reporting Procedure	15
10.0 Project Evaluation	16
11.0 Amendment Clause	16
ANNEXES	17

## LIST OF ABBREVIATIONS

ARA – SUL ARA – CENTRO CBO DGCS DNA DPM EIA	Regional Water Authority South Regional Water Authority Center Community Based Organization General Directorate for Development Co-operation National Directorate of Water Deputy Project Manager Environmental Impact Assessment
GOI	Government of Italy
GOM	Government of Mozambique
GPI	Guidelines for Project Implementation
IE	International Expert
MF	Ministry of Finance
MOPH	Ministry of Public Works and Housing
NGO	No-Government Organizations
IPA	International Programme Advisor
PM	Project Manager
PMU	Project Management Unit
PSC	Project Steering Committee

## GUIDELINES FOR PROJECT IMPLEMENTATION

#### 1.0 Scope Of This Document

These Guidelines for Project Implementation (GPI) describe the main components of the proposed project, define the scope of project activities and they outline the implementation modalities. It is prepared according to the provisions of the Cooperation Agreement signed between the Governments of Mozambique (GOM) and Italy (GOI) hereinafter referred to as the Agreement.

It is adopted as the basic memorandum on the utilization of financial, human and material resources that the two governments have set aside for the the "Construction of Nhacangare Dam in Manica Province and Maputo Sanitation and Drainage". This GPI is complementary to the Agreement and must be read in conjunction with the Agreement.

#### 2.0 Project Origins and Identification.

The project has its origins in a request made to the Italian Embassy (Nota Verbal 189 DEA/MINEC/05) dated May 17, 2005, by the Hon Minister for Foreign Affairs of the Republic of Mozambique. The useful discussions between the two Governments resulted in the GOI pledging a loan of US\$ 75 millions, to finance two projects in the areas of water and sanitation for the benefit of the residents of Maputo and Beira municipalities.

The first project aims at the construction of Nhacangare Dam, to augment water to Beira the second largest city with more than 500,000 populations. The projects are of high priority and will contribute a lot to the social and economic development of the country. They represent a significant step towards the implementation of the Millennium Development Goals (MDG) for Mozambique whose horizon of achievement is 2015.

The second project aims at the construction and rehabilitation of the storm water drainage and Sanitation system in Maputo city, particularly for neighborhoods of Polana Caniço and Central city.

#### **2.1 Project Formulation**

The preparation of the Nhancangare Dam component is based in a recent study (SWECO and associates 2005) where a proposal was made to build a dam that would supply the local irrigation needs of the Nhazónia farmers and at the same time contribute to solve or mitigate on the short and medium term the problem of low flows at the Pungwe Estuary, in this way serving the Beira water supply. The SWECO study included a simulation model that showed that a medium dam could in fact guarantee enough supplementary water to eliminate the problems of low flows and salt water intrusion at the lower reaches of the Pungwe River.

The old COBA study presented some ideas about the technical design of the dam but it lacked essential information.

The preparation of the 2004 Strategic Sanitation Plan (SSP) for Maputo was the first major exercise that identified and carried out preliminary planning of the two projects. The project identification mission that was mounted by the Italian government towards the end of September 2005 constitutes the most recent project preparation activity. DNA in Maputo has concluded feasibility studies for the projects during October 2005. The formulation of this GPI is a major step towards gaining access to the funds that the GOI pledged for the implementation of the two projects. The preliminary design work done so far is of high quality and the projects will need very little time to reach the tender stage.

#### 3.0 Objectives, Results and Activities

#### **3.1 Overall Objectives**

The overall objective of the intervention in the water sector through the collaboration between the two governments in the Project is to contribute to social economic development of Mozambique.

#### **3.1.2 Specific Objectives**

The specific objectives of the Construction of Nhacangare Dam are to:

- Contribute to the regulation of water flows in the Púngoè River especially during the dry season,
- Augment the volume of water supply to Beira city and the sugar farming area in Mafambisse;
- Promote agricultural activities through irrigation of low areas Nyazónia and Mafambisse.

The specific objectives of the sanitation and drainage Project in the Maputo, Bairro of Polana Caniço and its adjacent neighborhoods are to:

- Significantly improve storm water drainage, sanitation and environmental conditions,
- Minimize the negative impact of flooding in the area,
- Reduce the erosion caused by poor drainage and urbanization,
- Update the cadastre of the existing sanitation infrastructure in the lower sector of the city.

## 3.2 Project Results

The overall result of the two projects will be the construction of infrastructure measures that will provide additional public services to the target population in Manica and Maputo Provinces.

The specific expected results of the Nhacangare Dam project will be:

- 1. Nhacangare Dam with related infrastructure constructed to international standards and regulations.
- 2. Four hundred families currently living on the site of dam relocated.
- 3. Public infrastructures such Schools, Health Centers, Roads and 500 hectares of irrigation scheme constructed in the relocation areas.
- 4. Complementary equipment / machinery procured and in use.
- 5. Institutional arrangements for the operation and maintenance of the dam system put in place.
- 6. Water supply to Beira city and the Mafambisse sugar farming area significantly improved.

The specific expected results of the sanitation / drainage project will be:

- 1. A total of 7,6 km of primary and 2,3 secondary drainage pipes/channels and 10,8 km of drainage carrying roads.
- 2. Capacity of MOPH/DNA / Maputo city for effective project management enhanced.
- 3. Capacity of Maputo city to carry out maintenance of the drainage system improved.
- 4. A total of 80 km of sewer network inventory

## **3.3 Project Activities**

The proposed project activities are listed and grouped by components as follow shown in 3.3.1 for sanitation and in 3.3.2 for the dam:

## 3.3.1Nhacangare Dam Component

- 1. Preparation of Detailed Final Design and EIA for Nhacangare Dam by consultants.
- 2. Contracting supervision firm for the works;
- 3. Construction of public infrastructures such Schools, Health Centers, Roads and 500 hectares of irrigation schemes in the relocation areas;
- 4. Relocation of four hundred families from reservoir area of the dam;
- 5. Construction of access roads for the dam site;
- 6. Construction of earth dam with a 1.500 meters wall, 30 m height.
- 7. Provision of TA to MOPH/DNA to support the project management and capacity building.
- 8. Provision of local personnel to support project administration.
- 9. Provision of vehicles / equipment for PMU.
- 10. Provision of office equipment for project management MOPH/DNA).

11. Provision of office space for project management and administration

#### 3.3.2 Maputo Drainage and Sanitation Component

- 1. Preparation of Detailed Final Design of the storm water drainage and sanitation system.
- 2. Inventory of Drainage and Sewerage systems at Central neighborhood
- 3. Construction supervision of the works by a consulting firm.
- 4. Re-location/compensation of 200 No. of families from the project area
- 5. Construction of the storm water drainage system by Contractors.
- 6. Provision of TA to MOPH/DNA to support project management by Project.
- 7. Provision of local personnel for support in project implementation by DNA.
- 8. Procurement of vehicles / equipment for the PMU.
- 12. Provision of space for project management by DNA.

#### 4.0 Project Cost Estimates.

The Nhacangare Dam component of the Project has an estimated cost value of US\$ 46.8 million to finance civil engineering works, priority technical assistance measures and social environmental measures. The Maputo Drainage and Sanitation component of the Project has estimated value of US\$ 24.94 million, to finance civil engineering works and priority technical assistance measures as well as inventory of existing sanitation infrastructures.

#### 4.1 Nhancangare Dam

Cost Item	Estimate (\$)
1. Infrastructure investment	36,559,500
2. Social Investment	3,612,525
3. Design Engineering and Supervision	1,827,975
4. Contingency @ 15% of total	4,820,643
Sub Total Works (1)	46,820,643
5. Technical Assistance	
5.1 Human Resources	941,000
5.2 Office equipment, vehicles and supplies	110,800
5.3 Local office operating expenses.	432,000
5.4 Contingencies	148,380
Sub Total Technical Assistance (2)	1,632,180

#### 4.2 Maputo Sanitation / Storm Water Drainage Project.

Cost Item	Estimate (\$)
1.0 Inventory / Construction Works	
1.1 Inventory, Studies and Planning.	1,360,000
1.2 Subcontracting Construction Works	18,815,775
1.4 Contingencies	1,881,776
1.3 Detailed Design and Supervision	1,411,183
Sub Total Works (3)	23,745,655
2.0 Technical Assistance	
2.1 Human Resources	651,000
2.2 Office equipment, vehicles and supplies.	110,800
2.3 Local office operating expenses.	432,000
2.4 Contingencies	119,380
Sub Total Technical Assistance (4)	1,313,180

	Works (1+3)	70,566,298
GRAND TOTAL	<b>Technical Assistance (2+4)</b>	2,945,360
GRAND TOTAL (exchange	Works (1+3)	50,981,353
rate US\$/€ = 0.85	<b>Technical Assistance (2+4)</b>	2,503,556
TOTAL PROJECT COST (€)		62,484,909

#### **5.0 Roles Of Various Implementing Agencies**

The project has many stakeholders and it cuts across various sectors such as Fisheries, Agriculture, Tourism, Water (Regional Administrator), Education, Environment, Health and Local government. The need to facilitate coordination of the input of all these agencies and keep them informed in regard to project implementation, a high level committee is hereby formed to make up of senior representatives of the above agencies as a minimum.

#### 5.1 Project Steering Committee (PSC)

In order to ensure that the stakeholders have a voice in the project implementation process a Project Steering Committee (PSC) will be established to deal with implementation coordination issues policy. The PSC shall set its own rules of operation and be convened by the Permanent Secretary Ministry of Public Works and Housing (MOPH). It will hold at least one project review meeting per year.

The PSC shall be constituted as high-level consultative body and decisionmaking organism of the Project. During the PSC meetings corrective measures can be taken and/or proposed for subsequent implementation.

#### 5.2 The Project Management Unit

Project Management Unit (PMU) to be established within DNA for that purpose. A PMU shall be established and will remain in operation for all duration of the Project. The PMU will have the general task and responsibility to facilitate an effective and efficient implementation of the Project.

Additionally, PMU will ensure that there is sustained focus on project implementation and it will conduct the day-to-day project management business and be the focal point for implementation coordination.

#### 5.2.1 Functions of the PMU

The PMU will carry out the following functions among others:

- Carry out activities related to procurement of goods, services and works related to the Maputo Drainage Component, according to the provisions and procedures established in the Cooperation Agreement and GPI including: (i) preparation of bidding documents, (ii) bid advertising, (ii) bid evaluation, (iv) preparation of proposals for contract award and request notices of no-objection and, contract negotiation.
- Carry out all activities related to management of contracts including: (i) verification before any payment, of the compliance of the supplied goods/services/works with the contracts/orders requirements, (ii) payments.
- Monitor and control the correct execution of all project activities including their physical progress and the performance of the implementing agencies such as consulting firms, contractor's suppliers and individuals.
- Prepare all reports that are anticipated in the Cooperation Agreement and/or provide MOPH and MF with all documents and information necessary for their reporting requirements.
- Ensure that all official Project documents are duly signed by the PM before their transmission to the other agencies that are involved in Project implementation such as MOPH, MF, DGCS and Italian Embassy.

#### 5.2.2 PMU composition and staffing

The PMU will have a staff complement that will be deployed to the two components of the project as follows. The 1No. Project Manager (PM) and 1No. International Programme Advisor / Expatriate (PA) will deal with matters across the two components. All the positions will be filled by nationals except that of the Programme Advisor which will be filled by an expatriate. All the staff must have good knowledge of English as a working language.

Each of the components will have a works manager who will be a deputy project manager in charge of either Sanitation or Dam construction. The Staff of each component will include the following positions, which are described in detail under each title.

- 1No. Technical Manager / Deputy Project Manager (DPM),
- 1No. Senior Engineer (SE),
- 1No. Admin / Finance Officer,
- 1No. Secretary and
- 1No. Driver messenger.

#### (1) Project Manager (PM)

The Project Manager (PM) will be the head of the PMU who will be responsible for the execution of the Project Agreement and will coordinate and supervise all Project activities. After a positive outcome of an interview to be conducted by the DNA, the candidate will be appointed by MOPH to the PM position. The right candidate will be an experienced senior national engineer, familiar with contract management and project administration in Mozambique.

He / she will have a proven track record of working for the Government and/or international development agencies or NGOs. In additional to carrying out the functions of the PMU indicated in above, he / she will keep the PA fully informed on all project activities in order to enable the IE to perform its duty concerning project control for the DGCS.

#### (2) International Programme Advisor (IPA)

The IPA will be placed within the PMU as International Programme Advisor (Expatriate) to carry out the following functions in relation to the two components of the project:

- Facilitate programming aspects of PMU operations.
- Provide PMU with technical support for effective implementation.
- Provide quality control advise on PMU procurement procedures.
- Advise PM on compliance with the Cooperation Agreement and GPI.
- Support PM in processing notices / securing no-objection decisions.
- Provide independent opinion on contract matters.
- Support PM in monitoring the execution of Project activities.
- Troubles shoot the performance of implementation agencies.
- Backstop the PMU documentation and reporting requirements.

The International Programme Advisor (IPA) will be the principal advisor to the Project Manager (PM) on Project implementation matters. He will be designated by DGCS, among professionals very experienced in management of contracts, with proven record with recognized companies/agencies, ability to work within Government Ministry alongside national experts.

## (3) Technical Advisor / Deputy Project Manager (DPM)

After a positive outcome of an interview to be conducted by the Head of PMU with support of IE, the candidate will be appointed by MOPH to the Technical Advisor position who will deputize for the PM in his absence. The right candidate will be an experienced senior national engineer, familiar with bid preparation, bid evaluation, contract negotiation and contract management.

He / she will be technically qualified to oversee large scale drainage works with a proven track record working for the Government and/or international development agencies or NGOs.

#### (4) Senior Engineer (Works)

After a positive outcome of an interview to be conducted by the Head of PMU with support of IE, the candidate will be appointed by MOPH to the Senior Advisor position. The right candidate will be an experienced senior national engineer, familiar with monitoring of quality and progress of works, measurement of the works, monitoring techniques for payment and progress reporting.

He / she will be technically qualified to oversee large drainage works, cross drainage structures construction inclusive box-culvert, pedestrian and vehicle bridges with a proven track record working for the Government and/or international development agencies /NGOs.

#### (5) Administration-Finance Officer

He/ she will be recruited from candidates who will respond to an open advertisement for the position. He /she will be an experienced senior accountant capable of managing the administration of a Project with a large budget.

He / she will assist the Head of PMU in the administrative matters of his duties including; procurement of equipments / goods / services, financial audit, issuance of payment certificates and preparation of financial reports according to the established procedures.

## (6) Secretary

He / she will be recruited from candidates who will respond to an open advertisement for the position. He /she will be an experienced senior secretary, familiar with office management, filing, drafting of official documents, taking of minutes, with good public relations and highly motivated.

## (7) Driver

He will be designated from among experienced drives, having an up to date driving license, courteous, considerate and familiar with road safety and vehicle maintenance.

Title / Profession.	Posi	Reports To	
Project Manager /		Director	
Operations	Head o	of PMU	DNA
Engineer (1No)			
Project Advisor Expatriate	Advis	or PM	PM
(1No.)			
Technical Advisor / Deputy	Director	Director	PM
Project Manager (2No.)	Sanitation	Dam Component	
	Component	(1No.)	
	(1No.)		
Senior Engineer Works	Works Manager	Works Manager	DPM
(2No.)	Sanitation (1No.)	Dam (1No.)	
Admin / Accounts Officer	Accounts	Accounts	DPM
(2No.)	Sanitation	Dam	
Secretary (2No.)	Office Sanitation	Office Dam	DPM
Driver [1No.]	Head of PMU Vehi	cle O & M	DPM

#### 5.2.3 Reporting arrangements within the proposed PMU

#### 6.0 Implementation modalities, controls and audit

Fund management approaches / modalities will be applied in the execution of the project activities. For all the activities under the Project, the PMU as the Executing Agency will enter into contracts with the parties who will provide goods and services to the project.

The project funds will be managed by PMU according to internal procurement, disbursement and reporting requirement of the GOM in accordance with the implementation agreement signed between MOPH and DGCS. The GOM Controller and Auditor General procedures will apply in regard to the current standards of accounting, audit inspection and audited accounts.

#### 6.1 Role of the local community in the project areas

Consultations should be held with opinion leaders such as chiefs, school heads, heads of clinics and residents in the project areas to secure their cooperation with the project implementation agencies e.g. consultants, contractors and surveyors.

The involvement of community based organizations (CBOs) or nongovernmental organizations (NGOs) in the process of project implementation should be secured in the remaining phases of project design and planning. Interest groups in the community should be sensitized in respect of the objectives of the project. Community mobilization and training for participation in the implementation of the project should be made a key element of this project.

#### 6.2 Role of local authorities

Local authorities (drainage) and Central Region Water Authority (dam) are the ultimate owner of the assets created by the project. They would normally be responsible for:

- Planning and execution of operation and maintenance plans,
- Budgeting / allocating and releasing funds for maintenance,
- Hiring, dedicating and supervising O & M staff,
- Establishing autonomous service agencies to run the assets,
- Setting the rules for effective utilization of the project assets;
- Sustainability of the projects through establishing appropriate mechanism and tariffs.

The local authorities shall be supported with technical assistance to help them play the above roles effectively. It is estimated that close to 600 family units (both components) whose property is within the project sites will need to be relocated to give way for the construction of infrastructure. The whole community will need to be mobilized in order to play a beneficial role in the implementation of the project. The individual family units will need to be sensitized to the detailed measures of the project, which may necessitate relocation of the family members to alternative sites that will be identified by the Government. A public awareness campaign will need to be mounted through the project to inform local residents of the benefits that will come out of the investment

#### 6.3 Ministry of Public Works and Housing / National Directorate of Water

The MOPH/DNA as the client will be responsible for the mobilizing the investment finding, project management, coordination of the construction process. It will support the strengthening of local government project management capacity especially in regard to community participation and negotiating with the affected parties on suitable sites for relocation and the necessary compensation.

Related to the Dam, and after the dam is built, the implementation of this approach the responsibility for operation, maintenance and management will lie with ARA Centro, in the same way as the large dams in the South of the country (Pequenos Libombos, Corumana and Massingir) fall under the responsibility of ARA Sul. The responsibility of ARA Centro will be distributed in four categories:

- Water resources management
- Water supply
- Dam safety
- Environmental safety

In terms of water resources management, ARA Centro will establish, operate and maintain a sufficient network of hydrologic stations (mainly rainfall and hydrometric) to guarantee a safe and efficient operation of the dam. These may include the existing rainfall stations upstream of the dam (like P-350), hydrometric stations upstream and downstream of the dam (E-70 and E-72) as well as new stations. Of particular importance are observations at the dam – reservoir water level, rainfall, evaporation, outlet discharge and spillway discharge.

Regarding water supply and in accordance with the Water Law and subsequent legislation, the authorization for a concession for raw water abstraction is subject to authorization to be issued by the regional water administration, in this case, by ARA Centro.

Beira urban water supply already has a concession issued to FIPAG / Águas de Moçambique. With Nhacangare dam, an increased volume of water would be available to them.

Concession authorizations will be issued by ARA Centro for irrigation developments, particularly those existing and planned in the Nhazonia region.

These concessions for raw water abstraction imply the payment of a water tariff to ARA Centro that will use it partly to cover the costs of operation, maintenance and management of the dam.

Dam safety will be a major concern for ARA Centro and for DNA. At the present moment, there are no specific regulations concerning dam structural safety in Mozambique but there is enough experience around the world and in the region to be used as guidelines for ARA Centro.

The structural safety of the dam will require that, at the time of construction, an observation system is installed with the necessary equipment and procedures. ARA Centro will be responsible for the regular reading of the measurements and its analysis, looking for technical assistance for the more specialized issues.

The environmental safety will be reflected both in terms of ensuring the approved environmental flows to be discharged by the dam, good water quality in the reservoir and a flood warning system for the population and economic interests downstream of the dam.

To be able to respond effectively to these new tasks, ARA Centro will have to strengthen its human resources capacity, assuming that the income generated by the dam through the collected water fees will be sufficient for the equipment and materials needs, besides the costs of maintenance of the dam and hydromechanics' equipment itself.

A small but qualified technical team will have to be installed at the dam, for its operation and maintenance and to interact with the water users in the Nhazonia area. The head office of ARA Centro will also have to be strengthened. Because the operation and maintenance of the dam is a more specialized subject, technical assistance to ARA Centro specifically directed towards the dam should be envisaged.

The implementation related with sanitation component will be subject to a contract agreement with municipality regarding its role in setting up the Autonomous Service agencies, appointing suitable staff and providing recurrent funds for operation and maintenance within their budgets. The government will ensure the following:

- Local authorities compliance with the project principles and objectives,
- Influence the allocation of resources in line with project goals,
- Provide incentives for changes in the operations management of the assets,
- Improved implementation local development plans / programmes.

#### 7.0 Project Implementation Schedule

The expected implementation schedule for the main activities of the Project is indicated in Annex 2. A detailed Project Implementation Schedule shall be prepared by the PM and his team in the PMU, soon after the entering into force of the Agreement. It will be regularly updated and included in every project implementation report.

#### **8.0 Procurement Procedures for the Project**

The procedures to be adopted for tendering, award of contracts (and in general for all expenditures) for goods, services and works will be consistent with the **"Practical Guide to contract procedures financed from General Budget of the European Communities in the context of external actions".** The Guide is available at the following web site:

http://europa.eu.int/comm/euroeaid/tender/gestion/index\_en.htm

#### 9.0 Reporting Procedure

The PMU / MOPH shall submit annual and semi-annual progress reports on the project implementation to the IE not withstanding that there may be more regular reports called for by the GOM.

#### **10.0 Project Evaluation**

The project will be subject to two evaluations, one during the third year after work commencement and the other during the last quarter of the fifth year after commencement of the project.

Project on-going evaluations, to verify the Project capability to reach its objectives, as well as post evaluation (after Project Completion) will be jointly organized and agreed upon.

#### **11.0 Amendment Clause**

This GPI can be amended, changed or altered in accordance with the Cooperation Agreement or upon the written request of either party giving onemonth notice of their intention to do so. The clauses to be amended or changed will be specified in the written notice.

## ANNEXES

## 1 Technical Assistance Project Budget

Table 1

	All years	\$			
Expenses	Unit	# of units	Unit rate (US\$	Months	Costs (US\$)
1. Human Resources					
1.1 PMU Staff salaries for Dam (gross					
amounts, local staff)					
1.1.1 International Expert	Month	1	10,000	40	400,000
1.1.2 Senior Engineer Contracts/ Deputy		1			
Project Manager	Month		3,000	60	180,000
1.1.3 Senior Engineer (Works)	Month	1	2,500	60	150,000
1.1.4 Administration/Accounts officer	Month	1	1,000	60	60,000
1.1.5 Secretary	Month	1	500	60	30,000
1.1.6 Driver	Month	1	350	60	21,000
1.1.7 Support cost for IE	Month	1	2,500	40	100,000
Subtotal Human Resources Dam					941,000
1.2 PMU Staff salaries for sanitation (gross	5				
amounts, local staff)			•		
1.2.1 Project Manager PMU Head (Dam &	Month	1	3,500	60	210,000
Sanitation)					
1.2.2 Senior Engineer Contracts/ Deputy		1			
Project Manager	Month		3,000	60	180,000
1.2.3 Senior Engineer (Works)	Month	1	2,500	60	150,000
1.2.4 Administration/Accounts officer	Month	1	1,000	60	60,000
1.2.5 Secretary	Month	1	500	60	30,000
1.2.6 Driver	Month	1	350	60	21,000
Subtotal Human Resources Sanitation					651,000
Subtotal Human Resources		I	1	<b>F</b>	1,592,000
2. Equipment and Supplies					
2.1 Office equipment, vehicles and supplies for Dam					
2.1.1 Purchase or rent vehicles	Vehicle	4	22,500		90,000
2.1.2 Furniture/Fittings	Office	4	1,500		6,000
2.1.3 Computer equipment	Office	4	1,500		6,000
2.1.4 Printers/UPS	Office	4	400		1,600
2.1.5 Air conditioning	Office	4	800		3,200
2.1.6 Photocopier	Shared	1	4,000		4,000
Subtotal Office equipment, etc. for Dam		•			110,800
2.2 Office equipment, vehicles and					
supplies for Sanitation					
2.2.1 Purchase or rent vehicles	Vehicle	4	22,500		90,000
2.2.2 Furniture/Fittings	Office	4	1,500		6,000
2.2.3 Computer equipment	Office	4	1,500		6,000
2.2.4 Printers/UPS	Office	4	400		1,600
2.2.5 Air conditioning	Office	4	800		3,200
2.2.6 Photocopier	Shared	1	4,000		4,000
Subtotal Office equipment, etc. for Sanitation					110,800

Subtotal Office equipment, etc.					221,600
3. Running costs					
3.1 Local Office operating expenses for					
Dam					
3.1.1 Vehicle operating expenses	Office	4	1,000	30	120,000
3.1.2 Office rent	Office	4	500	60	120,000
3.1.3 Office running expenses	Office	4	500	60	120,000
3.1.4 Other services (tel/e-mail, electricity,					
water)	Office	4	300	60	72,000
Subtotal local office, etc for Dam					432,000
3.2 Local Office operating expenses for					
Sanitation					
3.2.1 Vehicle operating expenses	Office	4	1,000	30	120,000
3.2.2 Office rent	Office	4	500	60	120,000
3.2.3 Office running expenses	Office	4	500	60	120,000
3.2.4 Other services (tel/e-mail, electricity,					
water)	Office	4	300	60	72,000
Subtotal local office, etc for Sanitation					432,000
Subtotal local office, etc					864,000
4. Total direct costs of the project (1-3)					2,677,600
5. Contingencies (max. 10% of 4)					267,760
6. Total Eligible Tech. Assistance costs of					2,945,360
project (4+5)					
Exchange rate US\$/€ = 0.85					2,503,556

## 2. Project Implementation Schedule

Year	2	005	;				20	06					2007										2008											2009											2010								
Months			3 4					10 1																																													
	0	N	D J	F	м	A N	1 J	J.	A 8	5 0	N	D J	J F	м	A	ИJ	J	A	s	0 N	4 D	J	FN	I A	м	J	J	A S	0	N	D J	F	М	A N	1 J	J	А	s (	л с	D	J	FN	ΙA	м	J.	JA	s	0 1	VD e				
Activities			ea ch		a r	pa rv	ı u 7 n		u e g i	e c b t	o v	e a c 1	ı e ı b	a r		a u v n	1 u	u g	e D	c o t v	e 7 c	a n	e a b i	r b	a v	u n	u u 1 ≤	ı e E D	c t	o v	ea cn	e b	a r	p a r v	i u v n	u 1	u g	e pli	c o t v	e c	a n	e a v j	a p r r	a v	u u n l	ı u I g	e D	c c t 1	r e 7 c				
Draft Conceptual Proposal																																																					
Drafting Financial Proposal																																																					
Board Approval																																																					
Project Agreement signature																																																					
PMU establisment																																														_							
Transfer of funds																																																					
Design of Social Mitigation Plan																																																					
Bid for 200 N. Mitigation infrastructures																																																					
Construction of relocation infrastructures																			,																											_							
Realocation of 200N of families																																																					
Bid avertise for Drainage and Roads																																																					
Detailed Final Design and specifications																																																					
Bid evaluation and Contract Award by PMU																																																					
Mobilization																																																					
Drainage and Road Works Execution																																																					
Supervision of Works																																																					
Sanitation and Drainage Inventory																																																					
Project Management																																																					