

DAM COMPLEX OF UPPER ATBARA PROJECT

PRELIMINARY RESETTLEMENT ACTION PLAN (PRAP)

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Christian Potin Consultant

(in the frame of SOGREAH's Impact study for Dam Implementation Unit of Soudan)

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1 INTRODUCTION

In accordance with the Terms of Reference the present document provides a Preliminary Resettlement Action Plan (PRAP) that will have to be actualized and detailed in a further stage after completion of an official census of people and goods that will be affected, and a Public Information and Consultation Campaign (PICC).

The general requirement from International Financing Agencies in relation to the RAPs is to have a comprehensive planning document submitted for no objection from the main stakeholders, and first of all the affected population and their representatives. The presentation and content of the present PRAP complies with recommendations of the World Bank Policy principles and instruments which are summarized below in paragraph 3.1.

The DCUAP and its components which will entail involuntary resettlement has already been briefly described and its detailed impacts analysed in volume ?. We will just recall the major socio-economic impacts hereafter (chapter 2) that lead to the PRAP identification.

Then chapter 3 presents the strategic framework and approach of the PRAP, considering (i) the World bank policy principle and instruments ; (ii) the Sudanese legal framework, and ; (iii) the recent experience of Merowe resettlement. From these references and the specificity and diversity of the socio-economic baseline situation, which has been described in detail in **volume ?** and summarized below (paragraph 4.2), a specific and tailor-made strategy for the PRAP is proposed (paragraph 3.4).

The main socio-economic features (quantitative and qualitative) of the baseline situation to be taken into consideration for the RAP are recalled in paragraph 4.1, and further formal population census with additional socio-economic surveys is identified in paragraph 4.2.

The eligibility and entitlement conditions of the compensation and rehabilitation measures of the RAP are presented in paragraphs 5.1 and 5.2, and the grievance redress principles in paragraph 5.3.

Chapter 6 gives a first approach of the main principles which should lead to institutional arrangements for each item/activity in the entitlement policy, implementation of income restoration programs. Then a proposed structuring of a main RAP Implementation Unit (RAPIU) is given more in details.

The public information and consultation process which should be prior to the final design of the RAP is identified and its principles and timing described in chapter 7.

Then the different items/components of compensation/restoration/mitigation and development programmes are identified and pre-sized in the following chapters :

- Villages to resettle, resettlement sites and land acquisition: chapter 8.

- Population to resettle and housing compensation: chapter 9.
- Income compensations principles and dimensioning: chapter 10.
- Mitigation measures and development programmes: chapter 11 (socio-economic infrastructures and services, economic development programmes, social support, facilitation and follow-up).

From this preliminary design of the RAP costs and budget pre estimates are provided (chapter 12) and a preliminary implementation schedule (chapter 13).

Monitoring and evaluation first principles are given in chapter 14 and complementary studies and issues discussed chapter 15.

2 BRIEF REMINDER OF THE SOCIO-ECONOMIC IMPACTS OF DCUAP

2.1 Quantitative impacts

TABLE 1 – QUANTITATIVE IMPACTS

Field of impacts	Sub-category	Description and socio-economic consequences
Affected households, population and villages' lands	Affected residential and administration lands	Loss or limitation of residential, administrations and villages areas lands (built and building lands). People to be reinstated elsewhere and need of new physical and housing planning.
	Loss of private properties	Loss of private housing lands, houses, walls, fences, shelters, shops, etc. Losses to be compensated and people to be reinstated elsewhere
	Affected public and socio-economic infrastructures to be relocated	Loss of socio-economic infrastructures and services : health units, schools, markets, mosques, administrative offices
Affected agricultural activities and production systems	Loss of agricultural lands (cropped rainfed areas, irrigated lands, rangelands)	Loss of agricultural income
Affected non-agricultural activities	Affected handicraft activities, wage labourers and landless domestic units (vulnerable group)	Loss of non-agricultural income and employment

2.2 Qualitative impacts

TABLE 2 – QUALITATIVE IMPACTS

Field of impacts	Sub-category	Description and socio-economic consequences
Building sites and camps work	Negative socio-economic aspects linked to building sites and camps work	Traffic increase on accessroads, hindrance and disturbance..
		Employment on dam works causing negative impacts such as social disruptions and conflicts
		Unplanned spontaneous settlements and population migrations (emigration and immigration).
Affected agricultural activities and production systems	Disruption in farming and cropping systems	High level of disruption due to compulsory shifting of farmers and their family.
	Disruptions in livestock systems and movements	High level of disruption due to compulsory shifting of farmers and their family. Loss of animal husbandry incomes.
	Loss of agricultural production	Loss of agricultural production.
Fishing activity	Loss of fishing production and incomes	Decrease of number of fishermen
Non agricultural activities	Disruptions in non agricultural employment and activities	Loss of employment from dam construction phase and non-agricultural incomes
Public means of conveyance	Affected public means of conveyance and needs of new ones	Loss of roads and trucks
	Affected navigation flows	Loss of possible location for crossing rivers
Field of impacts	Sub-category	Description and socio-economic consequences

Administrative framing and security control	Impacts on local administration and security services	Changes in administrative set-up. Necessity of framing and controlling new populations and inhabited areas.
Social disruptions	Unplanned spontaneous settlements	Possible unplanned spontaneous settlements (totally and partially flooded villages and hamlets). Spontaneous fishermen camps installation aside the reservoir lake. Spontaneous changes in nomadic and semi-nomadic camps and shiftings.
	Demographic changes	Spontaneous population migrations (emigration and immigration).
	Socio-economic changes	Changes of way of life at different ethnic groups' level. Changes of economic activities. Development of non-agricultural wage salary (loss of labour force for agricultural activities).
	Anthropological changes	Socio-anthropological changes (deconstruction of domestic units and descent groups cohesion). Disruption of social cohesion at villages' and hamlets' level. Expectancy of urban way life style.
	Possible social conflicts and disputes	Potential conflicts and disputes at different socio-anthropological levels (ethnic groups, tribes, descent groups, domestic units, households)
Socio-cultural issues	Socio-cultural impacts changes and losses of live cultural patrimony.	Loss of ethnic diversity. Loss of material culture patrimony (handicraft, natural resources and environment uses, etc.).

2.3 Minimizing resettlement and displacements

Efforts have been made at this stage of the RAP preliminary design to minimize displacements of villages and population to resettle in the vicinity of the present villages and to minimize also land acquisition needed in actual rainfed agricultural land, giving priority to village reinstallation in not affected *karab* land or shrub savannah in the neighbourhood of the rainfed agricultural lands of the villages (see chapter 8).

Then mechanisms will have to be used to minimize displacements during implementation (in duration and in distance) in a further stage through physical and building planning and programming tools per village.

3 STRATEGIC FRAMEWORK AND APPROACH

3.1 World Bank policy principles and instruments

It is recommended that the RAP of the DCUAP should follow as far as possible the principles of the three applicable World Bank Policies:

- Operational Policy 4.12: Involuntary Resettlement.
- Operational Directive 4.20: Indigenous People.
- Operational Policy 4.11: Cultural Property.

Besides, for more detailed methodological approach and PRAP content, the IFC¹ “Handbook for Preparing a Resettlement Action Plan” as been followed with adaptation to a preliminary identification stage.

The main objectives of the World bank Policies can be summarized as follows :

- A. Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- B. Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs with sufficient investment resources.
- C. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- D. Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation

The WB Policy specifies impacts to be covered :

- Economic and social impacts caused by the involuntary taking of lands or the involuntary access to protected areas resulting in :
 - i. Relocation or loss of shelter;
 - ii. Lost of assets or access to assets;
 - iii. Loss of income sources or means of livelihood, whether or not the affected persons must move to another location.
- All components of the project that result in involuntary resettlement.
- Other activities resulting in involuntary resettlement considered by the financial agency-assisted project as necessary to reach the resettlement policy.

Required measures by the WB Policy in the frame of the resettlement planning instruments aim that the displaced persons should be :

¹ International Finance Corporation, the agency of the World Bank Group specialized in private investment projects.

- informed about their possible options and rights pertaining to resettlement;
- consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives;
- provided prompt and effective compensation at full replacement cost for losses of assets
- provided assistance during relocation and with residential housing, or housing sites, agricultural sites for which productive potential advantages are at least equivalent to the advantages of the old site;
- offered support after displacement, for a transition period, based on a reasonable estimate of the time likely to be needed to restore their livelihood and standards of living;
- provided with development assistance in addition to compensation measures such as land preparation, credit facilities, training, or job opportunities.

Specific Policy strategies have to be formulated for :

- Projects involving involuntary restriction of access to protected areas through a intense participatory process framework.
- Resettlement of indigenous peoples through preferred land-based strategies.
- Land-based resettlements when displaced persons have land-based livelihoods, which is the case of the DCUAP impacted area.
- Non-land-based resettlements when it is the preferred option of the displaced persons and when there are insured opportunities for employment in addition to cash compensation.
- Payment of cash compensation for lost assets when (i) land taken is a minor fraction of the total assets ; (ii) there are active markets for land, housing and labour ; (iii) livelihoods are not land-based.

In term of eligibility for benefits a formal and official census has to be achieved in order to :

- i. Identify the persons who will be affected by the project.
- ii. Determine who will be eligible for benefits and assistance.
- iii. Discourage inflow of people ineligible.

Three categories of persons have to be considered for eligibility :

- a) Those who have formal legal rights to land (customary and traditional rights included).
- b) Those who do not have legal rights at the time of the census but have a claim to affected land and assets.
- c) Those who have no recognizable legal right or claim to the land they are occupying.

The WB involuntary resettlement policy recommends different kinds of resettlement planning instruments :

- A Resettlement Policy framework is required when there is a set of sub-projects that may involve involuntary resettlement. The resettlement framework has to conform to the resettlement policy and to estimate the total population to displace and the overall resettlement costs.
- A Resettlement Process Framework is required for projects involving restriction of access to specific protected areas. The purpose of the process framework is to establish a process by which potentially affected communities participant in design project components, including resettlement options, implementation procedures and monitoring.
- An abbreviated Resettlement Plan may be sufficient when the project impacts on the entire affected population are minor or provoke less than 200 people to be displaced.

In the case of the DCUAP a full Resettlement Action Plan shall be necessary that is identified and pre-sized at the level of this preliminary study.

3.2 Sudanese legal framework

Relevant articles of the **Interim National Constitution of 2005** and the **2001 Environment Conservation Act** provide legal references for involuntary resettlement measures but no specific law has been promoted till now in Sudan for ruling and framing in details resettlement operations.

General environmental policy and legal framework has been already presented in **volume ?**, in particular the right to expropriate land and compensate the owners as well as issues related to safety and protection of the inhabitants, penalties for environmental damage ...

The main legislative texts and articles providing references to different aspects of involuntary resettlement and RAPs are recalled below.

Land Registration and Settlement Act 1925 provides rules to determine rights on land and other rights attached to it and ensure land registration.

Land Acquisition Act 1930 gives to the government the power to appropriate lands for development purposes. It contains detailed procedures to be followed in acquisition of land and rules governing payment of compensation for land required for public purposes. The procedures for land acquisition in any locality are initiated with notification by the People's Executive Council in a Gazette stating that it appeared to the President of the Republic to authorise the acquisition of land for public purposes. It is only after such notification that it shall be lawful to enter into, bore, set out boundaries, mark or survey land. An appropriation officer appointed by the People's Executive Council would notify the occupant whose land is to be appropriated for public purposes, call upon persons claiming compensation to appear before him at a place and time (not earlier than 14 days) and to state the particulars of their claims for compensation. He must attempt to agree on the amount of compensation for that land.

The Act provides for further steps to be taken with regard to assessment of compensation if agreement is not reached.

Unregistered Land Act 1970 deems any unregistered land, before the enactment of this law, as being registered in the name of the government.

The Civil Transactions Act 1984 regulates the different matters related to civil transactions with respect to titles on land, means of land acquisition, easement rights and conditions to be observed by land users.

Urban Planning and Land Disposal Act 1994 regulates designation of lands for different purposes and urban planning. With respect to land expropriation for public purposes, Section 13 of the Act recognises the application of its predecessor – Land Acquisition Act 1930.

The Environmental Health Act, 1975 contains detailed provisions for the protection of water and air from pollution and assigns defined administrative responsibilities to District Councils with respect to preservation of environmental health in general.

3.3 The reference of Merowe resettlement

3.3.1 The damages compensations and resettlement guide of Merowe Dam Project

The most recent comparable reference in term of resettlement linked with a big dam project in Sudan is the Merowe Dam Project. This reference HAS be taken into consideration for the RAP of DCUAP and lessons will have to be drawn both with respect to its positive and efficient aspects? and to its weak points and dysfunctional characteristics.

Compilation has been made of “Damages compensations and resettlement guide of citizens affected by Merowe Dam Project” in particular for criteria, norms and procedures. The original guide content in Arabic has been translated in English and its main text is given in appendix A2. Its major components are briefly summarized below.

The Dam Guide includes all republican laws and decrees, and Executive Regulations of the resettlement and damages compensations process for people who are affected by the construction of Merowe Dam Project. The guide brings a data and information base that explains the mechanism applied in the damages compensations and resettlement process. In another hand the guide tends to strengthen the communication between the affected persons and the Dam Implementation Unit, and how to co-operate between both in executing this significant national project.

The Merowe Dam Implementation Unit (DIU) was formed in 1999 by virtue of a Republican Decree. DIU is headed by the Minister of State, who is also the Executive Manager of the Project. Moreover, a High Political Committee was formed to supervise the project's implementation, including a number of ministers headed by the President of the Republic, which in turn formed a Technical Committee in 2003.

DIU began since its formation to meet with the citizens of the affected areas, and a Local Committee representing each area was formed, to be included in a High Committee representing the three areas affected by Merowe Dam Project. These committees continue having communicative dialogues with the project management to reach solutions satisfying all parties of damages. This took two years of continuous efforts.

Moreover, a Commissariat of Environmental and Social Affairs was formed to undertake the file of the persons affected by the Dam in all aspects, starting from supervising the determination of resettlement sites, building them, then resettling the citizens, dividing the lands after computing the agriculture activities and the possessions related to the lands in the areas which will be flooded, paying damages compensations, and ending with supervising all other environmental aspects related to the Dam

After intensive efforts, an agreement has been reached in the competent Technical Committee, formed by the President of The Republic and the President of the High Political Committee. Its recommendations were presented to the President who issued Republican Decree No. 3/2003 to amend Order No. 1/2003 regarding damages compensations categories of people affected by the project.

Since DIU cares for informing the citizens in the three Project areas with their rights and duties, the Guide was then prepared by the Commissariat of Environmental and Social Affairs and published by DIU. It aims to explain in a simple way all procedures and steps implemented, starting from enumeration and computation processes, damages compensations categories and the procedures to get paying thereof, then the resettlement steps and to make the citizen aware of all the documents including Executive Regulations, Laws, and Orders regulating damages compensations lawsuits.

Moreover, the Guide includes how to present requests that can be resolved by neutral people. It also indicates the representation of the interested parties before the Commissioner and the method of determining the term of claims, notice of damages compensations and the system of paying the same. It also includes the procedures of resettlement including the determination of sites, division of regions into plots, declaring the appropriation of the plots, the system of reconsidering the damages compensations and the procedures of paying such damages compensations. Finally, it contains the in-cash and in-kind damages compensations categories according to the recent amendments.

This guide includes five main chapters/components: (i) Enumeration and Computation, (ii) Damages compensation, (iii) Damages compensation Procedures (iv) Resettlement Procedures, and (v) Damages compensations Categories. Attachments to the guide provides besides list of all governmental laws, decrees and instructions (see attachment 1 in appendix A2).

The Enumeration and Computation chapter corresponds to statistics and tally systems to apply. The head principles can be summarized as follows. A separate file is prepared for

each member of the affected families including identity papers and data provide by the subject matter Tally Committees (see below). The following Tally Committees are formed :

- An Affected Families and their Movables Tally Committee involving both a representative for the affected persons and a representative of the Commissioner.
- A Lands Tally Committee (private or governmental properties and landrights).
- A Houses tally Committee (with definition of types of housing, number of rooms and facilities).
- A Plantations Tally Committee (with species classification and difference between fruitful and unfruitful trees).

The Damage Compensations chapter aim at defining the damages compensations types and includes both possible in-kind and financial damage compensations. In the resettlement areas in-kind allocation of new houses is foreseen through 3 houses models according to the family unit to resettle and its previous housing standard. Special compensation conditions are stipulated for persons residing for less than six years, for divided and inhabited houses. On the other hand financial compensations are foreseen for fruit trees and even wood trees.

The Damages and Compensations Procedures chapter includes the following aspects and measures:

- Inspecting, dividing and qualifying lands, buildings, trees and any other permanent content (with enumeration and value estimate for each category).
- Claims registration from beneficiaries and non-beneficiaries.
- Commissioner power definition (arbitration in case of disputes, heritages, joint possession, etc.).

The Resettlement Procedures chapter comprises the following steps :

- Definition of resettlement locations (with final Commissioner decision).
- Division and allocation of resettlement areas. Resettlement area shall be divided into separate plots of lands according to its nature and construction in the manner estimated by the Committee upon the recommendation of the Executive Manager. The plots of land should be suitable for allocation to either individuals or groups in case the individuals are linked by family relationships or by common interests. The committee shall define the type of possession of the plots of lands before its allocation upon the recommendation of the Executive Manager.
- Definition of closing terms, regulations and orders.
- Procedures of compensation payment.

The Compensation Categories chapter details damage categories and compensation rates (see details in appendix 3 in annexes). They concern :

- Agricultural lands (3 feddan compensated in-kind or 2 000 SG for one feddan previously owned for private lands).

- Residential lands and shops (in-kind or financial compensation upon categories).
- Date palms and fruit trees (from 500 to 900 SG per productive fruit tree upon categories – 12 SG per estimated cubic meter for wood trees).

This chapter includes besides a paragraph concerning Management and Irrigation of Agricultural Projects, and Finance of Agricultural Operations that stipulates the following leading principles:

- The government shall support resident families when they move to the new settlement with 500 SG for each family.
- Each family living in the area drowned by the lake water shall get six feddan in the areas of resettlement projects.
- Competent authorities in each state shall supervise the management of its corresponding projects.
- Farmers shall be exempted from paying water fees for two years. The government is committed to supply water for the agricultural Projects.
- The Government shall allocate an amount of money for a rotating fund of rural and agricultural operations.

3.3.1 Brief memo of lessons to be drawn from the Merowe experience

The Consultant has paid a quick visit of 1,5 days to Merowe Dam Project before embarking in field surveys of ESIA of DCUAP. We record hereafter the most salient information gained and main findings vis-a-vis future CRAP of DCUAP.

The construction works of Merowe Dam are in their last finishing phase. During the peak phase it was employing about 3 000 Chinese workers and 4 000 Sudanese workers. The filling phase of the reservoir has made now a good progress and the lake behind the dam will be 176 km long.

The population reaches 48,688 persons equivalent to 9,586 families distributed in three areas : El Hamdab, Hamri and Manaseer. This is according to the agricultural and population statistics made by Marwa Dam Implementation Unit in 1999. These three affected groups are Arab

We cannot visit the Manaseer area in the frame of the time available but only Hamdab pumping station, Hamri village and Merowe Dam site. Discussion was held with the Director of New Hamri Resettlement and Agriculture Project and the Responsible of Social Affairs.

The resettlement started with the citizens of El Hamdab area, as they are the first affected group at the level of the works camp, in El Moltaka City. In fact El Hamdab people are made of one single extended descent group and represents 7% only of the total affected population. At the time of our visit the resettlement was still going on in New Hamdab.

Hamri resettlement is completed in El Mokadem Valley Project, at the place called New Hamri. Hamri people comprise different tribes (Shaguiya, Manaseer) and represent about 28% of the total affected population. The following issues were raised by our interlocutors:

- Besides the compensation rate of 3 feddan for 1 feddan each family was given 6 additional irrigated feddan free, but some are not able to cultivate all their new agricultural lands.
- Social disruption issues and lack of social cohesion due to regrouping of families in the same neighbourhood whilst they were previously separate in their old village.
- Internal family conflicts due to heritages or sharing-out of lands and goods in relation with fragmentation of previous domestic units in simple households.
- Loss of the genuine internal arbitration of the Native Administration system, replaced by the Police Station which is not always efficient.
- New traffic problems (cars accidents) in relation with access to modern road and purchases of new cars by resettled families.
- Bad situation of the work camp area : unorganised waste disposal issue, sewage problems, spontaneous shops and dwellers, lack of asphalted streets, lack of health security services at contractors' offices site ...

Al Manaseer group represents 65% of the affected population and corresponds to one single tribe (Al Manaseer). It was scheduled that they will be resettled three years after beginning of construction works before the filling phase of the dam reservoir in El Mokabarat Project and other suggested areas around the Dam's Lake. But till now we have been told that this important affected group is reluctant to the planned resettlement. Manaseer people refuse to be resettled far from their origin lands and the resettled villages remain empty. They are moving and dwelling spontaneously around the lake as and when the water level is rising, building temporary houses. People behaviour and attitudes would be to put in relation with political manipulation at the level of Al Manaseer tribe.

The main statements and issues gained from these visits and discussions are as follows :

- What has been the pertinence and efficiency of the information and people consultation process in particular at the level of Al Manaseer group?
- Was the socio-economic baseline situation sufficiently known and taken into consideration before resettlement?
- Has the socio-economic baseline situation been upgraded before launching the resettlement programmes?
- Has the social structure and diversity been enough taken into consideration for resettlement (domestic units, descent groups, vicinity groups)?
- Are urban standards way of life systematically desirable for peasant or pastoralist social groups?
- What has been planned for livestock activity compensation and herds movements in the frame of the resettlement areas and their reclamation projects, in particular for Al Manaseer group ?

- Have the irrigated agricultural projects been enough studied in terms of socio-economic feasibility at grass roots level and with a participatory approach? Such as the issue of manpower availability and financial means at the level of some households in particular when they are freshly dislocated from their previous patriarchal domestic unit, the issue of know-how with respect to new farming systems, the issue of cultural adaptability of pastoralists groups, etc.

3.4 Recommended specific strategy for DCUAP

At this stage of preliminary report what is presented is a summary of the further Preliminary Resettlement Action Plan which itself will have to be designed in details in further steps. At this stage of DCUAP and its ESIA the final Preliminary Resettlement Action Plan will identify each action plan component with as far as possible a pre-feasibility approach in term of first rough budget estimates, staffing, supporting measures and institutional arrangements. ToR's for necessary more detailed studies before execution and implementation shall be elaborated.

On the whole we recommend to target a Resettlement Action Plan (RAP) that should be participatory, integrated and adapted to the specific socio-economic characteristics of the study area :

Participation to the RAP options and criteria should involved people concerned and the different institutional stakeholders. This will be searched through a bottom-up process based first of all on a prior public information and consultation campaign and after on a social follow-up, monitoring and facilitation process during CRAP programmes implementation.

Integration of the different RAP components/programmes and stakeholders shall be the cornerstone objective of the institutional organisation of the RAP.

Adaptation shall mean to design a made-to-measure RAP at grass roots level and not a ready-made plan from a top-down approach.

In other words and more precisely and practically the recommended RAP strategy is based on the following policy option and leading principles:

- 1) Because of the geographical magnitude the DCUAP and its regional impact, the Project, must not be restricted to a simple infrastructure project but should be considered as a major opportunity to support a wide and long term regional development;
- 2) As the Developer of the DCUAP, DIU should also play a key proactive role regarding the economic development of the sub-region, through financing and supervising concerned implementing agencies;

3) The smooth implementation of the DCUAP depends upon its acceptance by the global population and by the authorities of the area, and first of all from the directly affected by flooding. To satisfy this objective, the following principles should be respected :

- All the population along the Settit and the Atbara rivers which will be located along the reservoir areas must benefit from the Project. Nobody will oppose a project which brings individual or collective benefits.
- The population directly affected by the flooding must receive a fair compensation for the lost assets, but not at a level which could arouse conflicts or jealousy with the non directly affected population.
- The resettlement of the displaced families must be done in a way which preserves as much as possible the social structures of the families and of the villages, in order to avoid further conflicts and social disruption. Considering the ethnical diversity in the project area, this approach excludes, a priori, the aggregation of several villages into one large community, except if locally requested by the concerned population.
- Public information & consultation will be performed by DIU so that the concerned villages are informed of the project and of the identified resettlement options. The public consultation will be the means of promoting the project and the associated benefits of a regional development programme and to get from the population their preferences regarding development priorities.

4) The resettlement strategy SOGREAH proposes to develop in the Preliminary RAP is two-fold : direct compensation of individuals for lost assets (house & land) and assistance for regional economic development of the whole population concerned by the DCUAP. It should be based on the followings :

- Resettlement should be considered individually for each village or part of village, with the objective to move the residents of flooded villages to a new resettlement village as close as possible to their original village location and their rainfed agricultural land. This will translate as moving villages a few kilometres in a direction more or less perpendicular to the river. The new villages will be located near the banks of the future reservoir on the same bank as the original village. Resettlement sites will be searched in priority in karab lands or shrub savannah in order to minimize expropriation and land acquisition on rainfed cropped areas. This approach will enable the organisation of the villages and any complementarities between ethnic groups to be maintained.
- People whose houses are flooded will be resettled and receive a fair compensation limited to the lost assets. Among options, supply of materials and assistance for house reconstruction, according to traditional standards, should be favoured to avoid too much discrepancy in housing with those not resettled.
- A regional development program addressing medium and long term development objectives should be identified. So that all the people in the area will benefit from the project it is proposed that the project consider financing a general rural development programme which could include components as (i)

rural electrification; (ii) construction of paved roads to access the main Gedaref-Kassala main road with equipment of ferry boats for crossing the reservoir; (iii) village water supply; (iv) improved and more extensive health and education facilities and (v) initiation of pilot projects for agricultural and fisheries development, tourism promotion and non agricultural employment programme.

5) Selection of preferred components should be based first on the budget objective committed by the DIU and second on the preferences expressed by the population during the Public Consultation process. It is worth mentioning that this approach compared to what was done in Merowe minimizes the direct compensation/resettlement costs in order to maximize the budget devoted to regional economic development.

4 CENSUS AND SOCIO-ECONOMIC SURVEYS

4.1. Present available data and features

The baseline socio-economic assessed mainly through field works and surveys is provided in details in volume ?. For the purpose of the recommended RAP strategy and its component and programmes a synthetic reminder of the main socio-economic features to take into consideration for the RAP is given in table below.

TABLE 3 – MAIN SOCIO-ECONOMIC FEATURES AND IDENTITIES TO TAKE INTO CONSIDERATION FOR THE RAP

Field	Theme	Content	Possible issues
Administrative set-up and institutions	Locality level	The Localities are composed of a legislative body, who is represented by the Locality Legislative Council, and by an executive body headed by a Commissioner (Muhtamad) directly nominated by the State Governor. Under the responsibility and control of the Commissioner the Locality executive body is organised through 8 public sectorial administrative departments.	<ul style="list-style-type: none"> • Changes in administrative set-up. Necessity of framing and controlling new populations and inhabited areas. • Confusion and disruption in administrative set-up in cases where resettlement is spread over a number of jurisdictions or where resettlement will be implemented in stages over a long period of time.
	Administrative unit level	Normally each sectorial administrative department of the Locality is represented at the Wahda Idariya.	
	Local community	This grass-roots level is not actually an administrative level but the level of representation of people at village level.	<ul style="list-style-type: none"> • Disruption of the collaboration between local and native administration.
	Native administration	Two level of NA responsible have been identified : The sheikh at grass-roots level of each village and 'Omda for urban level.	<ul style="list-style-type: none"> • Disruption of collaboration between local and native administration. • Disappearance of the traditional role in managing the administrative affaires, supervising the use of community economic resource and of traditional ruling body. • Loss of the genuine arbitration through the Native Administration system Arbitration if replaced by other institution not appropriate.
Population and demographic features	Demography	77 villages (Wad El Helew included), 109 917 inhabitants, population growth rate (1993 -2008) : 2.5 %.	<ul style="list-style-type: none"> • Spontaneous population migrations (emigration and immigration) would change the demographic process. • The spread of education and improvements in livelihood systems, including the development of new modes of production would change the demographic processes.

Field	Theme	Content	Possible issues
Socio-economic infrastructures and services	Housing	A domestic unit comprises different houses (<i>bayt</i>) with several rooms (<i>ghorfa</i>).	<ul style="list-style-type: none"> Family conflicts due to fragmentation of previous domestic units in simple households.
	Health, Education, market, mosques	Actual infrastructures and services	<ul style="list-style-type: none"> Loss of socio-economic infrastructures and services : health units, schools, markets, mosques. Expectancy of new way life style requiring more socio-economic infrastructures and especially for the children (school, health units..)
	Water and energy supply	Actual supply systems	<ul style="list-style-type: none"> Changes of way of life for the domestic unit and especially for women.
Socio-anthropological structure	Ethnicity	Can be defined globally as a social group sharing the same culture (language, customs and institution).	<ul style="list-style-type: none"> Changes of way of life at different ethnic groups' level. Social disruption issues and lack of social cohesion due to over dispersal of ethnic groups. Loss of ethnic diversity. Loss of material culture patrimony (handicraft, natural resources and environment uses, etc.).
	Domestic units (Ousrahs/Hush)	Corresponds to a base extended family (ousrah) living in one housing unit (hush) and daily involved together in production tasks necessary for their life.	<ul style="list-style-type: none"> Social disruption issues and lack of social cohesion due to regrouping of families in the same neighbourhood where as previously they had been separated in their old village. Internal family conflicts due to heritages or sharing-out of lands and goods in relation with fragmentation of previous domestic units in simple households.
	Descent group ('Aïla)	It is defined as any social group in which membership depends on common descent from a real or a mythical ancestor. corresponds to a more extended family than the base extended family of the domestic unit.	<ul style="list-style-type: none"> Socio-anthropological changes (deconstruction of domestic units and descent groups cohesion).
	Tribes and sub-tribes	the tribe system would be based on the generalized opposition of the groups which are making it at every segmented hierarchical level and homogeneousness of segments.	<ul style="list-style-type: none"> Possible parties driven political reactions and troubles against RAP options rooted in tribe identities and solidarities.
	Kinship system	Here Kinship system is based on patrilineal kinship identity, social relations and the patriarchal decision making system.	<ul style="list-style-type: none"> Socio-anthropological changes (deconstruction of domestic units and descent groups cohesion). Expectancy of urban way life style.

Field	Theme	Content	Possible issues
Gender	Marriage system	The most prevailing marriage system in the study area is endogamy at different anthropological levels (descent group, tribes, ethnic groups)	<ul style="list-style-type: none"> • Socio-anthropological changes (deconstruction of domestic units and descent groups cohesion). • Expectancy of new way life style.
	Social role of women and economic activities	Women are excluded from all economic, political and social power and are almost completely excluded from public life.	<ul style="list-style-type: none"> • Economic and social disruption may result in greater hardships for women than for men in relation with gender disparities. • Internal family conflict due to expectancy of urban way of life. • Conflicts between teenagers, who are expecting social changes, new way of life, and their families. • Loss of the collective ethnic identity and of material culture patrimony (handicraft, natural resources and environment uses..). • Loss of solidarity in terms of common tasks, the care and bringing up of children, initiation into ritual practices.
Economy	Economic activities	Actual systems and activities : agricultural, livestock, fisheries, non agricultural activities	<ul style="list-style-type: none"> • Loss of economical activities (crops, livestock, handicraft productions, commerce, wage employment).

4.2 Further census and surveys needed

The final design of the RAP supposes an formal official census of the affected population, assets inventories, resource assessments, and update of socioeconomic surveys, if necessary, as part of RAP monitoring and evaluation.

The census of people to resettle and the inventory of goods to compensate should start and be achieved in parallel to the Public Information and Consultation Campaign (PICC, chapter 7 below). It will be run by RAPIU and will involve trained surveyors. This component shall consist of the different following items and tasks :

- Checking of the villages to be resettled totally and partially. Setting of a maximum elevation benchmark for villages or part of villages resettlement.
- Exhaustive census of domestic units, households and people, with census of resettlement options at village and domestic units level.
- Inventory of houses, buildings, equipment and assets to compensate (private/public).
- Administrative census of resettlement options at domestic units/households level :
 - Recording of direct compensation options;
 - Recording of family structure options (domestic unit or household) to be resettled.
- Inventory of agricultural lands, trees and animals :
 - Irrigated land mainly in term of number of jerrof-s through field enumeration with acreage assessment and field checking;
 - Karab land per village;
 - Fruit trees with field checking;

- Possible minor rainfed fields for those who will be resettled aside the future lake in rainfed cropped areas. (see chapter 8);
- Inventory of livestock per category (with direct enumeration checking sample).

5 ELIGIBILITY, ENTITLEMENT AND GRIEVANCE REDRESS

5.1 Eligibility

The formal and official census to be performed will allow to:

- Identify the persons who will be affected by the project.
- Determine who will be eligible for benefits and assistance.
- Discourage inflow of people ineligible.

Three categories of persons/domestic units/households have to be consider :

- a. Those who have formal legal rights to housing property and lands, both housing land and agricultural lands (customary and traditional rights included).
- b. Those who do not have legal rights at the time of the census but have a claim to affected land and assets.
- c. Those who have no recognizable legal right or claim to the land they are occupying.

Project Affected Social Entities (PASEs)

The assessment of the socio-economic baseline situation has shown that different levels of social entities have to be considered for resettlement, compensation and development measures (see reminder table 3 above) according to the socio-anthropological and institutional levels of ownership, right or use of the item to compensate and restore. These main social entities are as follows, in rank of order of importance :

- Project Affected Domestic Units (PADUs).
- Project Affected Households (PAHs).
- Project Affected Persons (PAPs).
- Project Affected Descent Group (PADGs).
- Project Affected Village Community (PAVCs).

These social entities are defined as those residing on or in the vicinity of Project Land, who on account of the execution of the Project, had or would have their : (i) standard of living adversely affected; or (ii) right, title, or interest in any house, land (including premises, agricultural and grazing land) or any other fixed or movable asset acquired or possessed, temporarily or permanently; or (iii) access to productive assets adversely affected, temporarily or permanently; or (iv) business, occupation, work or place of residence or habitat adversely affected, temporarily or permanently

By definition, it is these different social entities who are entitled to any applicable compensation and rehabilitation according to the socio-anthropological status of the assets, goods and incomes to compensate ; E.g. : houses units or rooms at the level of households, hush land plot at the level of the domestic unit, agricultural land at the level of the hush, non agricultural incomes at the level of the worker, wage salary at the level of the labourer, socio-economic

services and development programmes at the level of the persons, karab land at the level of the village community, the descent group, etc.

Land tenure and land rights in the study area has been analysed in the description of the socio-economic baseline situation (see volume ?).

On the whole and according to the items to compensate and, eligibility shall be based both on ownership and use.

Moreover some compensation, restoration and development measures will concern also of course Local Administration and Native Administration such as administrative offices, schools, health units, roads, village land acquisition, etc.

5.2 Entitlement

An entitlement matrix is an important instrument in the implementation of RAP. It facilitates the smooth and timely disbursement of compensation and other benefits for those who are legally entitled to them. Specifying as clearly as possible those individuals, elementary households, domestic units or other social entities who are entitled for compensation and other benefits (and the types of property for which they will be compensated for) and differentiating them from non-entitled persons, is crucial in at least two ways. First it helps to minimize errors of inclusion and exclusion (that is excluding those who are legally entitled and including those who are not legally entitled for compensation and benefits), and in this way helps to protect the implementing agency from false claims, costly litigation and delay in project implementation. Secondly, it serves as the overall framework for formulating the principles and methods for the valuation of assets

At that stage of a PRAP identification all the elements are not fixed for such an implementing entitlement matrix and a simplified and provisional one can be only outlined as follows in table 4 below. Every component and programme is moreover discussed in term of identification and entitlement in the different sections of chapter 8.

Both male and female and different level of social entities will be equally consulted and recognized in principle. Negotiations and compensation payments and livelihood restoration program entitlements will be realized with the relevant responsible person representing and managing the social entity considered as defined in paragraph 5.1 above.

TABLE 4 – PRELIMINARY ENTITLEMENT MATRIX

TYPE OF LOSS	ENTITLED SOCIAL ENTITIES	COMPENSATION AND REHABILITATION MEASURES
Permanent loss of land		
Loss of village community land	Villages communities – native administration – Local community Committees (<i>Legna chabiya</i>)	Villages resettlement on new land acquired by the project on different use status (karab and shrub savannah lands, rainfed copped areas to be compensate in return (see § 8.1)
Loss of residential land (home lot)	Project Affected Domestic Units (PADUs) and/or Project Affected Households (PAHs) according to internal family consensus to check whiles census and socio-economic survey, and by the Village Committee. Documented owners validated by sheikh and Native Administration - Non-renting occupants identified during the census and socio-economic inventory) (see § 8.2)	PADUs/PAHs will be entitled to compensation in the provision of replacement land, as below: (i) If the PADU/PAH wants replacement house plot land then they will be provided with replacement land of <u>at least</u> equal size and amenity to the lost land in a location acceptable to PADU/PAH in the frame of the physical and housing plan performed by the RAPIU. In this case no cash will be paid. The land will be cleared and levelled at the expense of the RAPIU. (ii) Such replacement land will be provided with access to a road, of at least equal amenity to the current access. (iii) Such replacement land will be provided with full land title in the name of both husband and wife. Either at Domestic Unit level (head of DU and his wife) or at elementary Household level (iv) No cash compensation will be given for residential land
Loss of administrative and public building land	Relevant administrative entity (§ 8.2)	Ditto
Loss of agricultural land (rainfed or irrigated)	PADUs/PAHs according to internal family system and further consensus Documented owners with or without certificate at the time of baseline Study.	Significantly affected farmers, i.e. who lose 10% or more of their productive (cash and imputed income generating) land assets, are entitled to replacement land and income rehabilitation measures, as follows: (i) Land of the same type, and of a total annual productivity at least equal to the lost (average) annual productivity of the lost land. (ii) Where irrigated land is lost the compensation could be in cash on replacement cost basis or in kind with a new irrigated land (see (§8.3). (iv) Where rainfed land is lost, the replacement land may be rainfed or irrigated; or compensated in cash (see valuation method § 8.3) (v) Such replacement land will be provided with full land title in the name.
Loss of Karab rangeland		

TYPE OF LOSS	ENTITLED SOCIAL ENTITIES	COMPENSATION AND REHABILITATION MEASURES
Loss of houses and other fixed structures		
Loss of houses and other private assets and buildings	Owners/occupiers identified during Baseline Study : PADUs and PAHs	Compensation could be <ul style="list-style-type: none"> • totally in cash with the obligation of the beneficiary to rebuild himself new housing in accordance with the housing models and standard defined by DIU (see first valuation in § 8.2.1), or, • partially in cash for payment of: <ul style="list-style-type: none"> - the hired labour cost associated with the dismantling of existing houses and other structures; - transportation of dismantled housing and other materials to new house lot (which are not however considered as materials to make up the minimum house standard) the provision of new materials for construction of new house and other structures • partially in kind through supply by RAPIU of new materials Houses design to be approved by the RAPIU in the frame of the physical and housing plan guide and norms, the Village Resettlement Committee and the PADU/PAH, but to be in general accordance with the design for the Resettlers.
Loss of administrative and public buildings	Relevant administrative entities	Replacement by improved buildings built by the RAPIU
Loss of trees, other productive assets		
Fruit trees	Owner or person with customary right to harvest (in cases where impact is only on crop production and not related to the land)	Compensation for fruit trees will be based on the type, age and productivity and the cost of production and rearing of trees. The following compensation will be payable: <ol style="list-style-type: none"> a) a lump-sum amount to cover the maintenance and rearing of trees. b) compensation equivalent to the annual productive value, as should be determined for the next 10 years.
Timber trees	Owner or person with customary usage rights`	Compensation will be the NPV of the felled tree.
Garden and field crops	Owner of the crops	Compensation for any crop unharvested at the time of relocation, or Project Impact, based on gross harvest income. Standing crops will be compensated at full replacement cost regardless of maturity of crops. Additional compensation for one year's agricultural production or more until replacement land is productive.

TYPE OF LOSS	ENTITLED SOCIAL ENTITIES	COMPENSATION AND REHABILITATION MEASURES
Loss of common property structures		
Road and tracks	Villages Communities – Local administration	Replacement by alternative improved road and track network, or the new resettlement area (see §8.4.1.1)
Water source	Village Community	Full restoration, replacement by alternative water source, or the new resettlement area fully serviced of at least equivalent standard and amenity or possibly improved water supply systems and network (see § 8.4.1.4).
Schools, clinics, other government buildings, bridges	Village Communities – Local Community Committee – Local Administration – State	Full restoration to original or better condition, or replacement if necessary at locations identified in consultation with affected communities and relevant authorities at no cost to the community.
Town	Wad El Helew town	The Company will undertake community and town planning and prepare and implement a design for a reorganized town, in consultation with local authorities and residents, to restore the impacted section of the town to its pre-Project conditions or better.

TYPE OF LOSS	ENTITLED SOCIAL ENTITIES	COMPENSATION AND REHABILITATION MEASURES
Allowance and Transitional Measures (see § 8.3.2)		
General installation allowance for disturbance	All the resettled PADUs/	250 US\$ per affected domestic unit
Allowance for temporary loss of agricultural income	Besides agricultural land compensation possible PADUs/PAHs farmers and/or keepers	To be better identified in a further RAP preparation step : relocating PADUs and PAHs severely affected by loss of productive (food generating) assets or loss of production system management who will be identified in the final RAP, and whose livelihood restoration program has not yet been fully implemented or successful
Allowance for temporary loss of non agricultural income (commerce, handicraft, fishermen)	PADUs/PAHs/PAPs involved in non agricultural activities generating secondary income	<ul style="list-style-type: none"> ▪ Part time commerce activities allowance: 210 US\$/affected merchant (6 months of cash income) ▪ Handicraft activities allowance (both handicraft production and handicraft service like mechanics): 50 US\$ (6 months of cash income) ▪ Seasonal fishermen: 100 US\$ (1 year of cash income)
Special landless allowance	Affected landless households/hushs	225 US! (3 months of allowance at the rate of 2,5 US!/day)

5.3 Grievance Redress

The implementation of involuntary resettlement is a complex process which can involve conflicts, disagreements and grievances on the part of Project Affected Social Entities (PASEs) and other stakeholders, mainly because it involves the expropriation and compensation of land and other assets, the demolition of houses and the relocation of families, etc. Unless an effective grievance redress mechanism is put in place from the beginning, the timely implementation of the project can be jeopardized.

The most important step in conflict resolution is conflict avoidance, and the consultative and participatory nature of decision making under the implementation of the RAP is aimed at reducing the occurrence of disagreements and conflicting positions. In instances where disagreements do occur, it is similarly important that they are resolved quickly before positions

harden and the conflict escalates. Different approaches may be required according to the social and institutional level that any conflict has reached, while at the same time, recognizing that the earlier a potential conflict is recognized and dealt with, the higher the chance of a successful outcome. These phases of conflict development and appropriate interventions can be summarized as follows (see also institutional arrangements, chapter 6 hereafter):

- Conflict avoidance > Consultation & participation in planning, decision making: public consultation, Project Affected Committees at different levels (see chapter 6), participatory planning at Resettlement Action Plan Implementation Unit (RAPIU) level.
- Simple disagreements > Informal negotiation, discussion and mediation (ditto).
- Early conflict development > Reference to RAP High Political Steering Committee, Local and Native Administrations and Project Affected Communities Committee.
- Conflicting positions taken > Reference to Grievance Redress Committees (see below).
- Intractable conflict > Refer conflict to regular court.

The best means of addressing any complaints or claims is through dialogue. Thus, when a PASE has a grievance, it will first discuss the issue with the RAPIU. If the RAPIU is not able to address the grievance, the complaints should be passed on to grievance committees.

At this stage of PRAP identification 3 levels of grievance committees can be proposed in coherence with the RAP implementation organization chart suggested (figure 2, chapter 6):

- A simple Village Grievance Committee (VGC) at each village level which could be practically a special commission of the RAP Village Committee.
- Locality Grievance Committee (LGC) at each Locality (*Mahaliya*) level.
- A Project Grievance Redress Committee (PGRC) at the upper level and under both the Gedaref or Kassala State and the RAP High Political Steering Committee.

The main function of the grievance committees would be arbitration and negotiation based on a transparent and fair hearing of the cases of the parties in dispute, mainly PASEs and the project implementing agency and Local Government and Administration. The PGRC must be independent and careful selection of its members is crucial to ensure its autonomy. For this purpose there will not be overlap of membership in the PGRC, PACC and RAPIU.

In the further stage of detailed design and preparation of a full RAP the following components of grievance redress system to be empowered will be in particular:

- To confirm the institutional arrangements of the grievance committees outlined in this PRAP.
- To specify composition of grievance committees at different levels.
- To define and stipulate a step-by-step procedure for registering and addressing grievances and provide specific details regarding a cost-free process for registering complaints, response time, and communication modes. This procedure will aim at en-

suring that the basic rights and interests of resettlers are protected, that concerns are adequately addressed and that entitlements are delivered.

- To describe the mechanism for appeal².
- To describe the provisions for approaching civil courts if other options fail.

² See example of procedure described in Merowe Resettlement Guide in appendix A2.

6 INSTITUTIONAL ARRANGEMENTS

The effective and successful implementation of the RAP will depend ultimately upon the institutional and organizational arrangements made for its implementation. Experience shows that even well designed RAPs (and other similar projects) fail to achieve their objectives mainly because of inadequate institutional arrangements for their implementation.

The institutional or organizational framework for the implementation of the DCUAP's RAP and the detailed responsibilities, coordination mechanisms, and capacity building measures for implementing unit and agencies are still to be discussed with DIU and the other main institutional stakeholders. First orientation proposals are given hereafter at this stage of the PRAP.

An effective and efficient RAP implementation organization and institutional arrangements scheme should be structured at three strategic and operational levels:

1. Central level of Sudan Government and Presidency.
2. Regional level of DCUAP including parts of Gedaref and Kassala States.
3. Local levels of Localities (*mahaliyat*) and Village Communities with their different levels of PASEs (paragraph 5.1 above).

A possible general organization chart is shown figure 1 hereafter. It is recommended at this stage that DIU should form a Resettlement Action Plan Implementation Unit (RAPIU) which would be the principal executive organ.

The RAP implementation organization will be controlled and supervised at Central Level by a High Political Steering Committee under it, a High Technical Committee.

The RAP High Political Steering Committee could be composed of:

- The representative of the Sudan Republic President;
- The Minister of Council of Ministers;
- The Ministry of Interior;
- The Governors of Gedaref and Kassala State;
- The Executive Director of DIU;
- The following main concerned technical Federal Ministers:
 - o The Minister of Environment and Physical Development;
 - o The Minister of Urban Planning and Housing;
 - o The Minister of Electricity;
 - o The Ministry of Health;
 - o The Minister of Agriculture & Forestry;
 - o The Minister of Animal Resources & Fisheries;
 - o The Minister of Social Welfare;
- The 3 Commissioners of the concerned Localities (see figure 1), and,
- Six representatives of the DCUA-Project Affected Communities Committee (PACC).

Under this High Political Steering Committee the High Technical Committee would be in charge of overall technical guidance and control of RAP components, action plan and programmes, and external monitoring and evaluation. It could involve:

- The General Secretaries of the technical Ministers seating in the High Political Steering Committee (see above);
- The main concerned Gedaref and Kassala States Ministries:
 - o For Gedaref State: Ministry of Health, Ministry of Public Education, Ministry of Agriculture, Animal Resources and Irrigation, Ministry of Social Affairs;
 - o For Kassala State : Ministry of Architectural Planning, Ministry of Education, Ministry of Health, Ministry of Agriculture Animal Wealth and Irrigation, Ministry of Social and Cultural Affairs;
- The DIU Deputy Executive Director, the DCUAP Chief Engineer, the Head of the General Commission for Social & Environment Affairs of DIU (see figure 2 hereafter), the General Manager of the RAPIU with his Heads of technical services invited according to subject matter;
- 6 technical representatives of the PACC.

The RAP Implementation Unit (RAPIU) should be in charge of key different functions and duties as summarized above:

- i. To organise and achieve the public and consultation campaign.
- ii. To perform and monitor census of people and inventory of goods and assets.
- iii. To achieve or supervise different technical studies.
- iv. To elaborate execution programmes of RAPIU.
- v. To implement or supervise achievement of RAPIU programmes either directly with its own means and through contractors, or in the frame of execution contracting agreements with other technical departments of Ministries at state or at federal level.
- vi. To monitor and evaluate all RAPIU programmes.
- vii. To organise training and technical assistance of its agents.

A tentative first outline of a possible RAPIU internal organization chart and structuring in accordance with its missions and duties the RAPIU could be composed of the following services and offices (see provisional tentative RAPIU organization chart and Offices details in figure 3 hereafter):

- One General Manager at the level of its Executive Directorate;
- One Administration and Accounting Service;
- One Computers and Data Processing Service;
- One Public Information, Consultation and Census Service (3 Offices);
- One Physical Planning, Housing and Works Service (6 Offices);
- One Compensation Programmes Service (4 Offices);
- One Development Programmes Service (5 Offices).

A first tentative provisional staffing and budget estimate for RAPIU at full operational stage is provided in appendix A1.8 an summarized as follows :

- 15 Engineers and professional staff.
- 21 skilled technicians.
- 16 secretaries, drivers and skilled workers.
- 9 unskilled workers.
- 11 4 WD vehicles and 6 common cars.
- 20 office sets (with 1 computer each).
- Investment costs : 830 000 US\$.
- Annual running costs at full operational stage : 1 089 500 US\$.

Figure 1 – RAP implementation organization chart

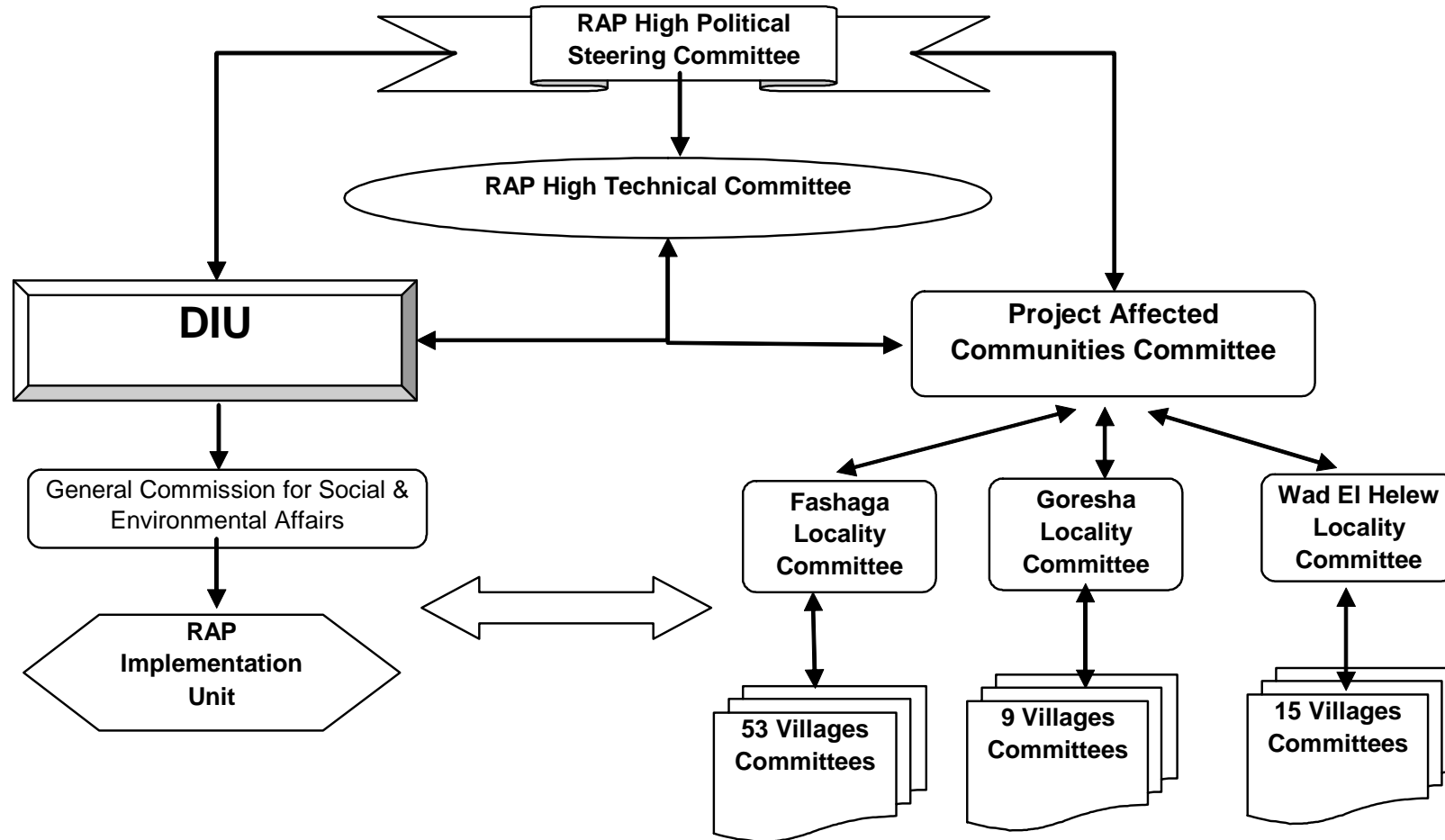


Figure 2 - DIU Organization chart

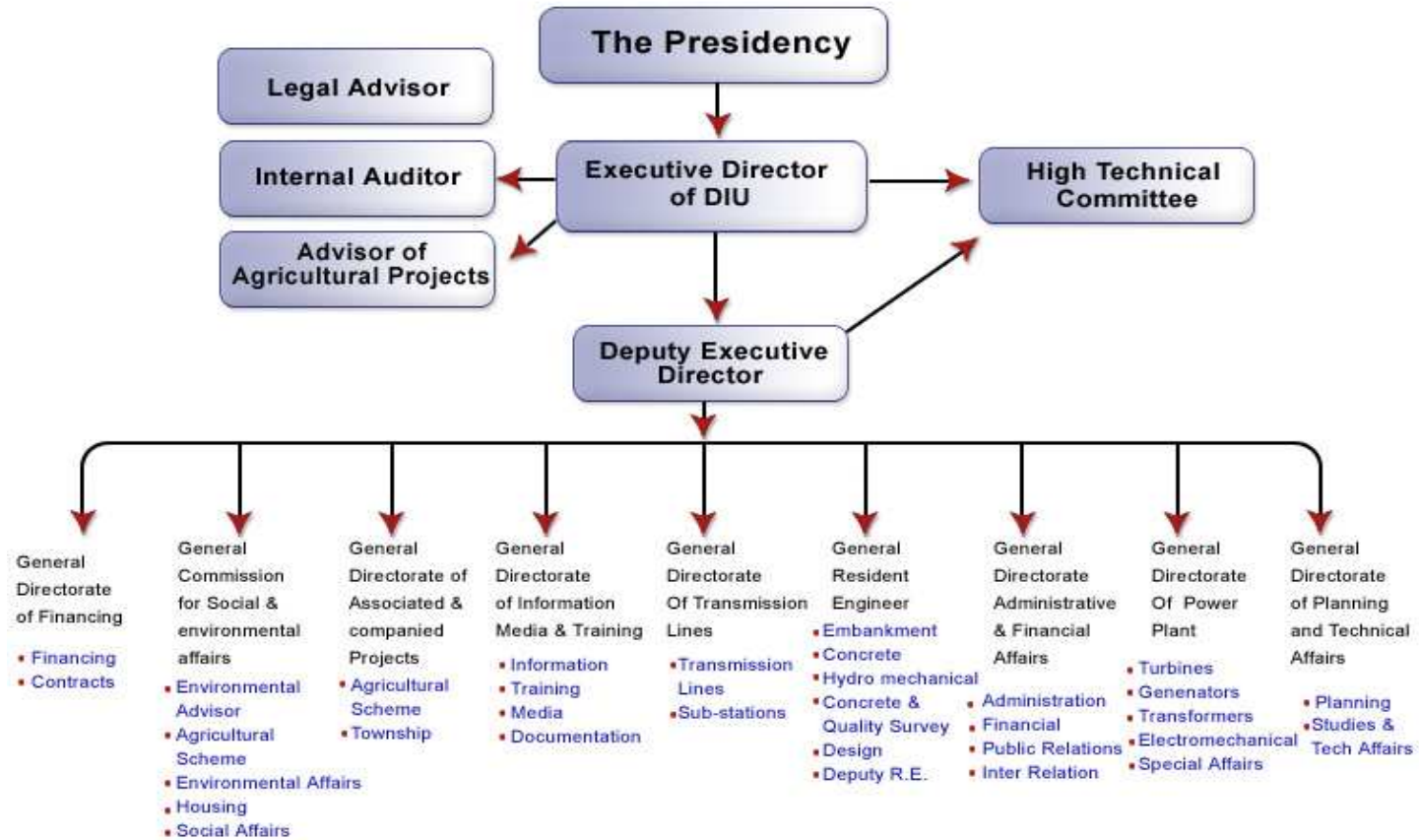
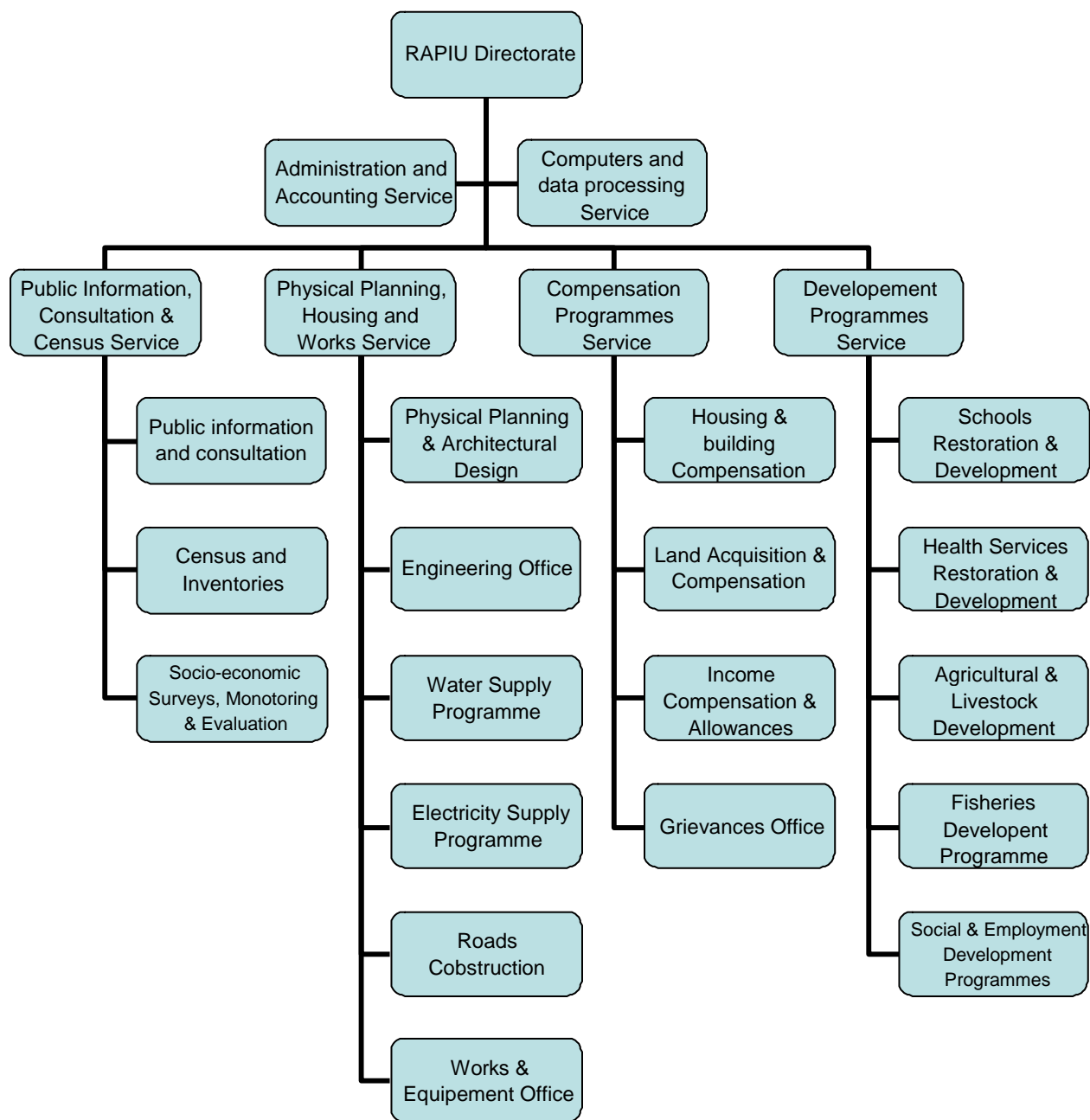


Figure 3 – RAP Implementation Unit organization chart



7 PUBLIC INFORMATION AND CONSULTATION

7.1 Public Participation Principles for ESIA³

The concept of Public Participation for ESIA and RAP

Public Participation (PP) may be defined as the involvement of individuals and social groups and institutions that are positively or negatively affected by a proposed intervention (e.g., a project, a program, a plan, a policy), subject to a decision-making process or are interested in it. Levels of participation in ESIA vary, from passive participation or information reception (a unidirectional form of participation), to participation through consultation (such as public hearings and open-houses), to interactive participation (such as workshops, negotiation, mediation and even co-management). Different levels of PP may be relevant to the different phases of an ESIA process, from initial community analysis and notice of the proposed intervention, to approval decision making, to monitoring and follow-up.

Objectives of Public Participation

Public participation is essential for good governance and may empower local communities. ESIA is multi-purposive, aiming specifically to:

- Invite the affected and interested public into the decision-making process to foster justice, equity and collaboration.
- Inform and educate the stakeholders (which includes the proponent, public, decision-maker(s) and the regulator) on the planned intervention and its consequences.
- Gather data and information from the public about their human (including cultural, social, economic and political dimensions) and biophysical environment, as well as about the relations (including those related to traditional and local knowledge) they have with their environment.
- Seek input from the public on the planned intervention, including its scale, timing and ways to reduce its negative impacts, to increase its positive outcomes or to compensate impacts which may not be mitigated.
- Contribute to better analysis of proposals leading to more creative development, more sustainable interventions and consequently greater public acceptance and support than would otherwise be the case.
- Contribute to the mutual learning of stakeholders and to improvement of the PP and IA practice for a proposal.

³ From *Public Participation Best Practice Principles*, International Association for Impact Assessment (IAIA), USA, André P.B. Enserink, D. Connor and P. Croal 2006 – Special Publication Series n°4 – 3p.

International Best Practice Principles

Basic Principles

Contemporary public participation practice in ESIA and RAP should be:

- **Adapted to the context** – Understanding and appreciating the social institutions, values, and culture of the communities in the project area; and respecting the historical, cultural, environmental, political and social backgrounds of the communities which are affected by a proposal.
- **Informative and proactive** – Recognizing that the public has a right to be informed early and in a meaningful way in proposals which may affect their lives or livelihoods. Increased interest and motivation to participate occur by diffusing simple and understandable information to the affected and interested public.
- **Adaptive and communicative** – Recognizing that the public is heterogeneous according to their demographics, knowledge, power, values and interests. The rules of effective communication among people, in the respect of all socio-anthropological entities, individuals and parties, should be followed.
- **Inclusive and equitable** – Ensuring that all interests, including those non-represented or underrepresented are respected regarding the distribution of impacts, compensation and benefits. The participation or defence of the interests of less represented groups including indigenous peoples, women, children, elderly and poor people should be encouraged. Equity between present and future generations in a perspective of sustainability should be promoted.
- **Educative** – Contributing to a mutual respect and understanding of all ESIA and RAP stakeholders with respect to their values, interests, rights and obligations.
- **Cooperative** – Promoting cooperation, convergence and consensus- building rather than confrontation. Engaging conflicting perspectives and values as well as trying to reach a general acceptance of the proposal toward a decision that promotes and supports sustainable development should be pursued.
- **Imputable** – Improving the proposal under study, taking into account the results of the PP process; including reporting and feedback to stakeholders about the results of the PP process, especially how their inputs have contributed to decision-making.

Operating Principles

With respect to the Basic Principles previously identified, public participation should be then:

- **Initiated early and sustained** – The public should be involved early (before major decisions are made) and regularly in the ESIA/RAP process. This builds trust among participants, gives more time for PP, improves community analysis, improves screening and scoping of the ESIA, increases opportunities to modify the proposal in regards to the comments and opinions gathered during the PP process, reduces the risk of rumors, and improves the public image of the proponent. It can also give the regulator more confidence in the approval decision they must make.
- **Well planned and focused on negotiable issues** – All ESIA/RAP stakeholders should know the aims, rules, organization, procedure and expected outcomes of the

PP process undertaken. This will improve the credibility of the process for all involved. Because consensus is not always feasible, PP should emphasise understanding and respect for the values and interests of participants, and focus on negotiable issues relevant to decision making.

- **Supportive to participants** – The public should be supported in their will to participate through an adequate diffusion of information on the proposal and on the PP process, and a just and equitable access to funding or financial assistance. Capacity-building, facilitation and assistance should also be provided particularly for groups who don't have the capacity to participate, and in regions where there is no culture of PP, or where local culture may inhibit PP.
- **Tiered and optimized** – A PP program should occur at the most appropriate level of decision-making (e.g., at the policy, plan, program or project level) for a proposal. The public should be invited to participate regularly, with emphasis on appropriate time for involvement. Because PP is resource consuming (human, financial, time) for all the ESIA/RAP stakeholders, PP optimization in time and space will ensure more willing participation.
- **Open and transparent** – People who are affected by a proposal and are interested in participating, whatever their ethnic origin, gender and income, should have access to all relevant information. This information should be accessible to laypersons required for the evaluation of a proposal (e.g., terms of reference, report and summary). Laypersons should be able to participate in relevant workshops, meetings and hearings related to the ESIA/RAP process. Information and facilitation for such participation should be provided.
- **Context-oriented** – Because many communities have their own formal and informal rules for public access to resources, conflict resolution and governance, PP should be adapted to the social organization of the impacted communities, including the cultural, social, economic and political dimensions. This shows respect for the affected community and may improve public confidence of the process and its outcomes.
- **Credible and rigorous** – PP should adhere to established ethics, official religion if any, professional behaviour and moral obligations. Facilitation of PP by a neutral facilitator in its formal or traditional sense improves impartiality of the process as well as justice and equity in the right to information. It also increases the confidence of the public to express their opinions and also to reduce tensions, the risk of conflicts among participants, and opportunities for corruption. In a formal context, the adoption of a code of ethics is encouraged.

7.2 Reminder of the main Stakeholders concerned

Actual Public participation will start through the Public Information and Consultation Campaign (PICC) which will lead to the final RAP. Public participation good practices should continue after all along RAP implementation period in the frame of the monitoring and evaluation system (see implementation schedule, chapter 10).

The main stakeholders directly concerned by the RAP and thus who should be involved in its Public Information and Consultation Campaign (PICC) have been identified and characterized already above and in the socio-economic baseline situation assessment (see volume ?).

For the reminder they are summarized below:

- **Project Affected Social Entities (PASEs):**
 - Domestic Units (*hush* – PADUs)
 - Elementary Households (PAHs)
 - Individual persons (PAPs), including women, other gender categories and influential persons
 - Descent groups (larger extended families – PADGs)
 - Village Communities (PAVCs)
 - Village associations and some NGO's
 - Tribes and ethnic group entities (represented by the Native Administration *sheikhs, Omdas* and *Nazirs*)
- **Local and Native Administrations:**
 - Local people Community Committee (*Legna Chabiya*)
 - *Sheikhs* and *Omdas*
 - Administrative bodies of *Wahdat Idariya*
 - Locality Commissioners (*Muhtamad*) and their Locality Executive Bodies
 - Locality Legislative Councils
- **The different ministries and institutional stakeholders involved in the RAP High Political Committee and the RAP High Technical Committee** (details in chapter 6 above).
- **DIU**

7.3 Pre Design of a Public Information and Consultation Campaign

Together with the official census of affected domestic units and households and the inventory of assets and goods, the Public Information and Consultation Campaign (PICC) should be under the responsibility of DIU through its RAPIU.

The PICC aims to establish the views of the public with regards to the potential impacts of the proposed dam construction and operation through the main different stakeholders, in particular PASEs, community leaders and local committees without provoking prematurely an a-priori and subjective negative views against the project objectives and components.

The PICC will involve the various stakeholders at different levels of the information/participation process through the following functions and stages :

The PICC should comply as much as possible with the international Public participation basic and operational principles defined in paragraph 7.1 above.

Specific objectives of the Public Information and Consultation of the PRAP will be:

- Elaboration of basic information supports on DCUAP, its impacts and PRAP options (RAPIU/DIU, High Technical Committee).
- Formal information (disclosure) of the PASEs and different stakeholders on DCUAP, its impacts (positive and negative), RAP components and programmes including compensation for lost assets, eligibility or compensation, resettlement assistance, and grievance redress.
- Answering to any questions and issues raised by different stakeholders through the first round of information, utilizing for this purpose information resources of responsible stakeholders, in particular in the fields of technical and economic information.
- Opinions measurement of the affected social groups, local institutions and other affected stakeholders.
- Participatory planning of resettlement areas per affected village/social groups.
- Discussion and participatory decisions of physical and housing options of resettlement: housing models, housing social options (nuclear households/domestic units resettlement or not per descent group/ethnic group, etc.).
- Discussion and agreements on direct compensations (in cash and/or in kind), income compensation and special allowances.
- Discussion and participatory decision of procedures and methods to apply during the further RAP and its different programmes.
- Discussion and participatory identification of the different socio-economic infrastructure and services programmes, and the economic and social development programmes.
- Discussion of possible physical participation of the PASEs during the RAP components and programmes implementation
- Discussion and participatory design of the RAP monitoring and evaluation system of the different stakeholders.

The feasibility of the PICC supposes formal organisation and representation of the affected social entities and their local institutional administrative stakeholders in a more or less top-down process in a first of public information and in a bottom-up process in a second phase of public consultation and opinions, requirements and requests measurement.

The main outlines of such tactical PICC organisation and participation process will match with the overall RAP implementation organization proposed above (chapter 6), through the 64 Village Committees, the 3 Locality Committees, the Project Affected Communities Committee, the RAPIU and the 2 Upper Steering Committees.

The following PICC steps could be provisionally defined at this stage

A. First phase of disclosure of general information on DCUAP, its impacts and PRAP principles and components.

- Elaboration of information supports: posters, booklets, power points, posters, maps and satellite photo maps, voices registrations.
- Disclosure of general information on the impacts, entitlements, and compensation options to the affected social entities and stakeholders:
 - o A Public Information Centre could be located Showak or near the Dam construction site ;
 - o Information in media : newspapers, regional State radios and villages loud speaker broadcasts ;
 - o Previous meetings for PICC launching with the High Political Steering Committee and the High Technical Steering Committee ;
 - o First series of information meetings with Project Affected Communities Committee, the Locality RAP Committee and the RAP Villages Committee ;
 - o Reporting of the information first phase with recording of attendants reactions and questions at every level.

B. Second phase of disclosure of lists of affected domestic units, households and village administrative and public buildings after completion of population census and inventory of assets and goods.

- Information supports : poster size lists of affected domestic units and households and their affected assets ; poster size schedules of the detailed actual resettlement plan (villages reinstallation, village sites, land acquisition and expropriations, houses reconstructions).
- Second series of information meetings with Project Affected Communities Committee, the Locality RAP Committee and the RAP Villages Committee.
- Reporting of the information with recording of the PASEs reactions and questions at every level, including first grievance declarations.

C. Third phase of consultation, final participatory programming and grievance redress mechanisms and procedures.

- Third series of consultation and participation meetings at each village level after a suitable time after the first information meeting this third round will aim at (i) reply to questions raised by the villagers, (ii) precise and come back on some misunderstandings, (iii) target to discuss more in details implication and participation of PASEs and other stakeholders in implementation of compensation and resettlement programmes (iv) evaluate and record attitudes, opinions and requirements.
- After this third round of grass roots meeting the Village Committees, will have to hold a complaints, grievance and requirements book. Contents of these books will be reported in the upper levels of the Locality Committee/Project Affected Communities Committee, RAPIU and finally the two RAP High Steering Committees.

D. Empowerment and launching of the grievance redress mechanism through:

- The Village Grievance Committees (VGC) at each village level which could be practically a special commission of the RAP Village Committee.
- Locality Grievance Committees (LGC) at each Locality (*Mahaliya*) level.
- The Project Grievance Redress Committee (PGRC) at the upper level (see paragraph 5.3 above).

On the whole it is assumed at this stage of PRAP identification that the PICC would need around 2 years taking into consideration the time needed for the population census and goods inventory that will be a prerequisite for the second disclosure phase of the PICC (see above).

Before launching the PICC it will be necessary to precise the first six months of the RAPIU installation (see tentative PRAP implementation schedule chapter 10):

- The roles and type of participation targeted for the various stakeholders.
- The description of the process of promoting consultation/participation of affected populations and stakeholders in resettlement preparation and planning.
- The detailed description of the plan for disseminating RAP information to affected populations and stakeholders, including information about compensation for lost assets, eligibility or compensation, resettlement assistance, and grievance redress.
- The training of the RAPIU agents who will be in charge of the PICC, in particular in terms of social communication and facilitation methods and practices.
- A possible external Technical Assistance for supporting, supervising and monitoring the PICC.

8 IDENTIFICATION OF THE RAP COMPONENTS AND PROGRAMMES

8.1 Villages resettlement

8.1.1 Magnitude of villages resettlement

The identification of the villages to resettle with first proposed options of sites selection and land acquisition has been performed per village. The corresponding village data base is given in appendix A.1.2 and is summarized below. The location of these affected villages is shown in map ?

On the whole, out of the 74 villages of the study area along Atbara and Settit rivers, 67 villages will have to be totally or partially resettled with the following characteristics:

- 62 villages will be flooded permanently or seasonally (security benchmark elevation has been fixed at 520 m high).
- 5 villages (Rumeila, Wad El Hedy, Tayboune, Hilat Zakariya, Berdana) will have to be displaced due to their location in the dam construction areas.
- 52 villages (84% of total affected villages) will have to be totally resettled.
- 15 villages will have to be partially reinstated, out of which :
 - 4 villages at 5% or less,
 - 6 villages at the proportion of between 10% and 50%, including Wad El Helew town (38% to displace),
 - 5 villages between 50% and 85%.

A total villages gross area to resettle of 2 880 feddan has been roughly estimated at this stage from map measurements. The total future new area for resettled villages or parts of villages is estimated to be around 1 980 feddan, with the following assumptions:

- 600 square meters per resettled elementary household, on the basis of Merowe resettlement norm (77 m² of stab area + 523 m² of yards, shelters and small garden per household). This norm includes provision acreages for demographic growth, and inter and intra spaces and passage between households, domestic units and descent groups. Which gives a total of 1 460 feddan needed for housing resettlement and thus total land acquisition.
- An additional provision area to add to the above total gross housing area of 35% (between 7% and 43% per village according to the actual degree of scattering of the villages and number of hamlets).

8.1.2 Resettlement sites and land acquisition

As already mentioned above in the recommended specific RAP strategy for DCUAP resettlement sites possibilities have been roughly investigated on map in the vicinity both of pre-

sent villages to resettle and their rainfed agricultural lands. Tentative provisional options per village are given in details in appendix A1.2 and are summarized below.

In term of actual land use types of possible land sites for resettlement villages distribution is as follows:

- 34 villages could be resettled on neighbouring karab land above 520 m high.
- 16 villages on shrub savannah land not very far from their rainfed agricultural land.
- 2 villages on mixed karab and shrub savannah land.
- 13 villages (including part of Wad El Helew town) on mixed actual rainfed cropped areas (thus to be compensate secondarily) and karab/shrub savannah land.
- 2 villages on only rainfed cropped areas.

On the whole of the 67 villages and town to resettle the average distance from present villages to possible new sites is only 2,1 km (between 0,1 and 6,5 km according to villages, and average distance from possible new sites to rainfed agricultural land also 2,1 km (varying from 0,5 to 5 km).

Under these assumptions and at this preliminary level of approach only 371 feddan of land acquisition on actual rainfed agricultural would be necessary. Land acquisition on karab land in the vicinity of villages to resettle or on shrub savannah land could be agreed without second hand compensation between Native Administration, Local Administration and Village Communities representatives. On the other hand land clearing would be necessary for a rough estimate of around 707 feddan of wooded area (shrub savannah and karab lands).

8.1.3 Further investigations and studies

Further investigations, surveys, people consultation and studies will have to:

- Involve affected social entities (village communities, PADU's, PAHs) in a participatory process to identify sites more precisely.
- Perform feasibility studies to determine the suitability of the proposed sites, including natural resource assessments (soils and land use capability, vegetation and livestock carrying capacity, water resource surveys) and environmental and social impact assessments of the sites.
- Clarify calculations per village relating to site requirements and availability.
- Describe mechanisms for: 1) procuring, 2) developing and 3) allotting resettlement sites, including the awarding of title or use rights to allotted lands.
- Design for each totally or partially resettled village a physical and housing planning scheme with all infrastructure and socio-economic services needed (roads, health services, schools, water and electricity supply, administration, market facilities ...)
- Define finally for each new village a building programme involving the RAPIU, contractors, village communities and PADU's/PAHs.

8.2 Resettlement of people, housing and buildings

8.2.1 Affected population and private houses

The identification and quantitative assessment of the population and its housing to resettle has been performed for each affected village from the percentage of village to displace in each case. The corresponding village data base is given in appendix A.1.3 and is summarized below.

On the whole total population to resettle is estimated at this PRAP stage to be 60 443 persons corresponding to 4 590 domestic units (DU/*hush*) and 10 221 elementary demographic households (HH).

On the basis of the average ratio established through the sampled household survey, varying from 3,3 to 7,8 house unit(HU)/*hush* according to ethnic groups, the total number of house units is estimated 22 842. What means a ratio of 5 house units (HU)/domestic unit, 2,2 HU/household and 2,6 persons/house unit.

From the RRAs performed in the frame of the socio-economic assessment of the baseline situation the actual traditional house unit standard has been sized in average at 22 m² (20 m² for circular huts and 25 m² for square earth-made houses) with generally 2 rooms per house unit. Local construction cost with local materials and labour force family and wage workers can be estimated presently at 2 500 SG (1 125 US\$) per house unit, varying from 1 500 to 3 000 SG according to ethnic design standard.

As already stipulated above in recommended specific strategic principles for the RAP of DCUAP new housing in resettled villages should keep the same traditional architectural design and house unit sizing with improved building materials and techniques.

It is assumed at this stage that the total average cost of a 22 m² improved new house unit will be 2 000 US\$ (including surrounding wall or solid fence of the *hush*), that represents a ratio of 91 US\$/m² that has been compared with the average housing cost of Merowe resettlement of 234 US\$/m². Housing compensation could be totally in cash, totally (construction by RAPIU's contractors) or partially in kind (supply of materials by the RAPIU) on the basis of new village physical plans, improved architectural houses models and under the guidance and the supervision in every case of an architectural permanent consulting and Technical assistance service provided by the RAPIU.

From these options and assumptions the housing restoration programme is provisionally estimated to be 45,7 millions US\$ (9 952 US\$/affected domestic unit – 4 470 US\$/affected household and 756 US\$/affected person).

In the further stage of final preparation of the final RAP all these options will have to be discussed in the frame of the PICC with the affected population, according to the ethnic/social categories, in particular vis-à-vis:

- Clarification of traditional housing standards (sizes, materials, design, costs) in the frame of the population census and assets inventory.
- Involvement and agreement of the housing strategy.
- Housing models and standards.
- Way of compensation (in cash, in kind, mixed).

A provisional budget to be more precise in the further RAP preparation step has also been estimated on the basis of 150 shops to resettle at a cost of 1 500 US\$ per improved shop which gives a total of 225 000 US\$ for this compensation component.

8.2.2 Public and collective buildings and assets

At this stage of PRAP identification provisional compensation budgets have been estimated simply for mosques and administrative buildings as follows apart from schools and health unit (paragraphs 8.4.1 hereafter).

- 1 office per resettled village for Local Community Committee (*legna chabiya*), and Native Administrations (*sheikh*) – 75 m²/office with 3 rooms + a meeting room, 7 000 US\$/office – Total provisional budget : 462 000 US\$.
- 1 new semi-modern mosque per resettled village – 200 m²/new mosque – 20 000 US\$/mosque – Total provisional budget : 1,3 millions US\$.

Future formal inventory of assets and goods to conduct in parallel with population census will clarify the number and architectural models of affected public and collective buildings and assets such administrative offices (*wahda idariya*, agriculture office, veterinary office, police station, mosques per design category, markets areas, etc.).

8.3 Land, income compensation and allowances

8.3.1 Agricultural land compensation

Agricultural land to compensate has been estimated from the mapping of the affected villages and their agricultural lands and the options and assumption of the villages resettlement data base (appendix A1.2). It is given in details per village in appendix A1.4 and summarized below.

Three categories of agricultural lands and rangelands will be affected by the project or the resettlement (secondary impacts, see paragraph 8.1 above) and thus will be subject to compensation:

- 1 170 feddan of irrigable lands (*jerrofs*) in the rivers beds that will be permanently flooded.
- 47 390 feddan of *karab* rangelands that will be flooded.

- 371 feddan of rainfed cropped area which will have to be acquired for the resettlement of 15 villages (see paragraph 8.1 and appendix A1.2).

Without the existence of a land market in the affected area valuation assumptions and options (see also entitlement matrix paragraph 5.2) of these 3 categories of land to compensate are summarized as follows :

- Irrigable land : 50% of yearly net irrigated area at replacement cost = compensation cost of rainfed cropped land + small pumping equipment ; i.e 2 500 US\$/feddan – Total provisional budget 1,5 million US\$.
- *Karab* rangeland : 75 US\$/feddan – 7,5 US\$ (15 SG)/feddan/year (average pastoral value of 15 Fodder Unit -FU/feddan – 1 SG/FU) during 10 years or more rationally on the basis a yearly cumulated value actualized over 40 years with an actualizing rate of 10% (for a present national inflation estimated 8%). – Total provisional budget 3,6 millions US\$.
- Rainfed cropped land : 1 500 US\$/feddan (3 000 SG⁴) on the basis of an agricultural income of 300 SG/year (auto consumption included and family labour force social costs not valuated, see socio-economic baseline situation, paragraph agricultural activities and production volume ?) during 10 years or as above for *karab* lands a yearly cumulated value actualized over 40 years with an actualizing rate of 10%.

Moreover fruit trees vegetable gardens inside or aside the *hushs* including and private timber trees will have also of course to be compensate when flooded. Their enumeration and categories will be clarified through the socio-economic census and inventory. No budget provision has been considered at this stage of PRAP approach.

8.3.2 Special allowances and non-agricultural income compensation

Budget provisions have been taken at this stage for the following allowances and income compensation (see entitlement matrix paragraph 5.2) on the basis of the outcome of the DU sampled survey performed for the assessment of the socio-economic baseline situation (see quantitative assessment of affected non-agricultural activities appendix A1.5):

- A general installation allowance for disturbance due to resettlement : a lump sum of 250 US\$/domestic unit for all the affected domestic units – Total budget 1,15 million US\$.
- Special households landless allowance (in addition to the general installation allowance) : a lump sum of 225 US\$/affected elementary (2,5US\$/dayX3 months) – 1 336 landless households – Total budget 300 600 US\$.
- Allowances for temporary loss of non-agricultural income due to villages and housing resettlement:
 - Part time commerce activities allowance: 210 US\$/affected merchant (6 months of cash income) – 700 beneficiaries) – Total budget 147 000 US\$.

⁴ By comparison agricultural land was compensated at 2 000 SG/feddan for Merowe resettlement – See appendix A2.

- Handicraft activities allowance (both handicraft production and handicraft service like mechanics): 50 US\$ (6 months of cash income) – 560 beneficiaries – Total budget 28 000 US\$.
- Seasonal fishermen: 100 US\$ (1 year of cash income) – 290 part time fishermen – Total budget 29 000 US\$.

No provision has been foreseen at this stage for temporary loss of agricultural income in addition to compensation for loss of agricultural land, assuming that the resettlement of the affected domestic units near the rainfed agricultural areas should not really affect farming activities in such rainfed cropping systems during the rainy season, the rest of the year being a non-farming period. Scheduling of displacement of population should take this constraint into consideration.

These income compensation and special allowances options and rates will be of course re-considered during the PICC and the final RAP shall clarify and specify more accurately the following issues:

- Checking that the compensation entitlements will be sufficient to restore income streams for each category of impact.
- Identification of what additional economic rehabilitation measures will be necessary.
- Spelling out of the restoration strategies for each category of impact and description of their institutional, financial, and technical aspects.
- Process description of consultation with affected populations and their participation in finalizing strategies for income restoration.
- Checking that income restoration requires change in livelihoods, development of alternative farmlands or some other activities that require a substantial amount of training, time for preparation, and implementation.
- Appraisal of the risks of impoverishment to be addressed.
- Description of the process for monitoring the effectiveness of the income restoration measures.
- Checking of any development programs currently operating in or around the project area and if they meet the priorities of the targeted groups.

8.4 Mitigation Measures and Development Programmes

8.4.1 Socio-economic infrastructures and services

8.4.1.1 Access roads and rivers crossing

The major constraint for local development is certainly the poorness of the roads and tracks network of the impacted study area. In the rainy season villages are not accessible and during the wet season it takes a long time due to the lack of main access roads from the Gedaraf-Showak national road and the elementary track network feeding villages with alternative ways and weak points and sections when crossing thalweg and *karab* zones.

Although the future reservoir will only flood the last sections of these poor feeder tracks to flooded villages it is of the utmost importance to consider a general improvement of the roads network and the conveyance system in and around the impacted area. Such a conveyance network will be however the necessary and priority condition for implementing villages and villagers resettlement and the socio-economic equipment and development measures of the RAP (access to resettled villages, schools, health services, water and electricity supply, people mobility, trade, input supply, administration ...).

For such an improvement an integrated planning and technical study shall be necessary that would take 1,5 year (see preliminary implementation schedule chapter 10 hereafter).

A first step road feasibility study must be the initial stage of road design process for complicated road network development, in order to:

- determine the socio-economic need to implement a specific project ;
- determine the most favourable road alignment ;
- determine optimal structural and engineering solutions and possibilities to implement them.

It will include:

- Traffic flow analysis ;
- Preparation of alternatives for potential route alignment ;
- Economic assessment of prepared alternatives ;
- Environmental Impact Assessment and public hearing for construction concept.

A second step after decision making of preferred options will be detail design and execution study (1 year).

At this stage of a PRAP identification a provisional road budget has been estimated according to the following assumptions:

- 130 km of new main secondary access road in total, both on Atbara river left bank from dam site to Sifawa and on Settit river from dam site to Tabouassib. – Provisional unit cost estimate : 80 000 US\$/km.
- 40 km of Fashaga interior road to rehabilitate – Provisional unit cost : 15 000 US\$/km.
- 380 km of villages feeder roads to construct – Provisional unit cost: 30 000 US\$/km.

The feasibility and engineering costs of this road improvement programme is included in the global provision taken for the RAP studies and engineering costs (chapter 9).

This new roads and permanent solid track network will also benefit to the few villages along the rivers which will not be flooded.

Reservoir crossing facilities

Once the reservoir filled crossing it both on its Atbara river branch and on its Settit river branch will be also an important issue to be addressed and integrated of course in the roads feasibility study.

At this stage a provisional budget of 500 000 US\$ has been considered for reservoir crossing facilities that could cover alternative combined possibilities:

- Boat services (private lease) on key points of the two rivers (assumption: 70 000 US\$/boat service).
- Ferry facilities: one ferry terminal more or less in the middle of each reservoir branch (assumption: 180 000 US\$/ferry system).

Total investment cost of improvement programme of the roads network (river crossing facilities included) would be roughly in the rank of order of 23 millions US\$ (only 208 US\$/inhabitant).

8.4.1.2 Health units restoration and development

The quantitative assessment of existing health units to resettle, and moreover a provisional sketch of strengthening has been performed for each affected village in the frame of the exhaustive village survey of the baseline situation assessment. Results are given in appendix A1.7 and are summarized below.

Total number of health units⁵ to resettle:

- 2 Health Centers,
- 4 rural clinics (*shafakhana*),
- 11 health support units (*nuqta dam*),
- 10 basic health units (*wahda shiya*).

The strengthening of the present health services network is outlined at this stage taking into consideration of its actual situation and the village population density. It is summarized as follows (details per village in appendix A1.7):

- 1 additional health center (in Al Amara Shirq village).
- 6 additional rural clinics (villages of Hagueb Sidou, Hilat Ali Khalifa, Hashaba Maala, Guiraine, Hilat Zakariya, Guira).
- 11 additional health support units (*nuqta dam*): 1 new and 10 previous basic health units promoted.
- 2 additional doctors.
- 8 additional medical assistants.
- 8 additional nurses.

⁵ See definition in the socio-economic baseline situation volume?

Total tentative budget estimate for this restoration and strengthening of health services totalized (see detailed cost units and physical norms in appendix A1.1):

- Investments 545 000 US\$
 - Health centres 180 000 US\$
 - Rural clinics 200 000 US\$
 - Health support units 165 000 US\$
- Additional annual running costs
 - Additional medical staff 187 200 US\$
 - Small equipments and medicines 54 500 US\$

In the further step of the full RAP preparation this provisional rough health services restoration and strengthening programme will have to be discussed and clarified with the Health Ministries of Kassala and Gedaref States and with people concerned through the PICC.

8.4.1.3 Education

As for the health services the different categories of schools affected is numbered in detail per village in appendix A1.6) a provisional tentative identification of a strengthening of schooling, limited to the basic school level at this stage, is also sketched per village. Total number of schools to resettle and provisional proposal of number of new basic schools to create is summarized below:

Total number of school to resettle

- 15 pre schools
- 121 coranic schools (*khalwa*)
- 42 basic schools (233 classrooms and 233 appointed teachers)

The strengthening of the present basic schools network is outlined at this stage taking into consideration its actual situation, the village population density and the roughly estimated schooling enrolment ratio. The number of new classrooms to create (181) and the number of new teachers to appoint (146) corresponds to the following development objectives for the 64 villages directly affected:

- Actual basic schools total enrolment ratio: 50% ; boys 75% ; girls 30%.
- Targeted future basic schools enrolment ratio: 85% ; boys 95% ; girls 75%.

This schooling improvement programme will have to be discussed with the Ministries of Public Education of Gedaref and Kassala States on the one hand, and with the concerned villages and population in the frame of the PICC, in the other hand. It should logically be extended to the population not directly affected in a further step, after or during the completion of the full RAP.

Total tentative budget estimate for this restoration and strengthening of different categories of schools totalized (see detailed cost units and physical norms in appendix A1.1):

- Investments 3, 3 millions US\$, with the following distribution:
 - Pre schools restoration 114 00 US\$
 - Coranic schools compensation 242 000 US\$
 - Actual basic schools restoration 1 597 500 US\$
 - Additional basic schools 1 357 500 US\$
- Additional running costs (new teachers): 1 752 000 US\$

8.4.1.4 Water supply

Access to clean water supply is one of the major problems that population faces in most project affected villages, as in the few non affected villages. This is one of the major causes of illness among children and adults and a burden on women and girls who have to fetch water in the rivers from long distances. Accordingly, as one of the important components of the social development plan, suitable clean water supply schemes (reservoir water first of all, bore-holes, shallow wells, depending on local circumstances) will be implemented in those project affected villages which lack clean water supply. This important socio-economic improvement programme should benefit o all the 74 villages (Wad El Helew town included) of the impacted study area.

Not being in position at this stage to identify more precisely this programme that will depends of each village location and participatory villagers options a very rough provisional budget has been estimated on the basis of 75US\$ of investment cost per inhabitant, which gives for the 109 917 inhabitants of the total impacted study area an investment cost of 8,2 million US\$, the third one in rank of magnitude after housing resettlement and roads development (see total PRA budget estimate, chapter 9).

Further accurate feasibility and detail design studies will be necessary for each village or group of village in the frame of a participatory process. A provisional engineering costs budget is globally included as for roads in he global provision taken for the RAP studies and engineering costs (chapter 9).

The standard content of such a feasibility study is summarized below

- Water demand study
- Current water consumption
- Water social demand forecast
- Water resources study
 - Surface water resources (DCUAP reservoir) : identification of intake and storage sites - Flow measurements Determination of divertible discharge.
 - Groundwater resources : aquifers - Inventory of existing wells - Estimation of groundwater resources.
- Water quality and treatment requirements

- Raw water quality assessment - Survey of existing and potential pollution sources - Raw water quality standards and classification.
- Water treatment processes
- Formulation of alternative schemes
 - Design criteria ;
 - Hydraulic parameters ;
 - Economic parameters ;
 - Storage capacity and stand-by capacity.
- Formulation of new schemes
 - Preparation of schematic layout ;
 - Pipe material selection ;
 - Sizing ;
 - Preparation of investment cost estimate ;
 - Implementation schedule ;
 - Comparison of alternatives.
- Economic and financial analyses (with pricing study)
- Environmental and social impact study

8.4.1.5 Electricity supply

It is obvious that the impacted study area upstream the future dam should logically benefit of electricity production of its hydropower plant. The socio-economic assessment has shown that the main energy sources for villagers are actually natural wood and charcoal. Electricity supply would be thus a progress both for natural environment preservation and socio-economic development, women and girls bearing the heavy burden of picking wood in the shrub savannahs and karab not always near their home. On an other hand electricity supply to domestic units will cause drastic economic and cultural changes (street and public building lighting, improvement of livelihood, technical changes, payment of electricity bills, television, etc) which will have according to social categories positive or adverse impacts. Any how it should be discussed village per village in the frame of the PICC before any decision, this consultation and participation process must be an integrated component of the feasibility study, as for the water supply programme.

Thus for such a rural electrification programme as for the water supply one there is a need of an accurate feasibility study at two levels, before any decision and execution studies:

- First level of feasibility of the current supply from the plant to each bank (4) of the two rivers in relation with the
- Second feasibility level of each village or group of villages.

General commanding alternatives will be to forecast at village level either a simple public electricity supply or a systematic electricity supply for every domestic unit/household, or, most probably an intermediate alternative according to each village an its energy social demand.

Following the same policy principle that for water supply the electricity supply programme should also benefit o all the 74 villages (Wad El Helew town included) of the impacted study area. A rough provisional budget has been estimated on the basis of 30US\$ of investment cost per inhabitant for a partial electrification of domestic units, which gives for the 109 917 inhabitants of the total impacted study area an investment cost of 3,3 million US\$ (see total PRA budget estimate, chapter 9).

Comparable to water supply the feasibility study of villages electrification is roughly sketched hereafter:

- Energy and electricity demand study
- Current actual energy consumption
- Energy and electricity social demand forecast
- Formulation of alternative schemes
 - Design criteria ;
 - Electric parameters ;
 - Economic parameters.
- Formulation of new schemes
 - Preparation of schematic layout;
 - Sizing ;
 - Preparation of investment cost estimate ;
 - Implementation schedule ;
 - Comparison of alternatives.
- Economic and financial analyses (with pricing study)
- Environmental and social impact study

8.4.2 Economic development programmes

8.4.2.1 Agriculture and livestock development programmes

Agricultural activities and production are the very first source of income for the affected population of the impacted study area. The agriculture and livestock development programme should be an important mitigation and development measure that will aim to improve the PADUs/PAHs income and wellbeing by enhancing in a sustainable way crop and animal production and productivity.

Farming systems development

Actual farming systems are composed of three main socio-economic activities:

- 1 Crop production with various cropping systems ;
- 2 Animal production with different livestock systems ;
- 3 Off-farm economic activities and incomes.

Apart from local ecological conditions, these three types of production sub-systems are dependant-quantitatively and qualitatively :

- on the farmer's access to labour (an effect of demographical and social structures),
- to land (an effect of land tenure and land rental systems),
- to technology (cultural system) and,
- to capital (social position of the farmer).

It is also influenced by consumption needs and marketing systems.

Besides its income increase objective a rational off-farm economic activities development can contribute to the sustainability of the farming systems, in particular under severe natural conditions and/or when the production factors are limited. The issue of the potential of social and employment programmes is presented hereafter paragraph 8.4.2.3.

Cropping systems development

Usually cropping systems are based on a mixture of self consumption food crops (sorghum, millet, watermelon and some cow peas) and of cash crops (mainly sesame: groundnuts and carcadeh). These patterns result from the strategies followed by farmers regarding the types of crops grown, area cultivated in each crop, intercropping practices, thinning practices, timing of cropping activities and rotation of fallow land. Both the environmental constraints and the decisions of farmers in allocating resources for agricultural inputs, such as seeds, chemicals, directly affect crop output which in turn influences consumption, marketing and investment. Following is the principal means of restoring soil fertility.

Cropping systems development program should be based on the identification of their main constraints. The constraints can be roughly divided for convenience of analysis into crop production constraints and other constraints. Crop production constraints are further broken down into natural constraints (wind, erosion, pests and diseases, soil fertility and rainfall) and input and technical constraints (labour and credit, access to improved seeds, chemicals ...). The other constraints include the credit market, procedures for auctioning crops, government price policy, the limited knowledge of farmers, storage and transportation, the lack of farmers association and unions.

A participatory feasibility study will have to address all the constraints both separately and in an integrated way and should content the following subject matters and improvement objectives :

- Intensification: improved supply of agricultural inputs (fertilizer, improved seeds, pesticides, etc);
- Crop intensification and diversification of rainfed agricultural systems
- Pest and disease control ;
- Natural Resource Management: soil and Water conservation ;
- Appropriate sustainable technologies vis-à-vis the natural constraints ;
- Potential of some small-scale irrigation development with high value crops, vegetables, fruits, spices (individual and micro collective irrigation systems) ;
- Improved agronomic practices ;
- Commercialization: Marketing support services ;
- Promotion of farmers' organizations and associations ;

- Agricultural credit ;
- Extension and training for young farmers and elders ;
- ...

The above improvement/development objective should be viewed as “integrated package” through pilot projects and the inputs and costs should be formulated in terms of individual as well as total number of eligible PADUs/PAHs.

Livestock systems development

The construction of the dam and creation of the reservoir is expected to flood an estimated 47 390 feddan of *karab* rangeland. This loss will bring about marked differences in the live-stock carrying capacity of the project area, especially for villages for which small ruminants or cattle have an important weight (see appendix A1.4).

Livestock play an important role in the livelihood of people and there is potential for greater contribution through better feeding, health management and genetic improvement.

In cattle areas, it is apparent that multi-production has high priority as a source of regular cash income and to satisfy family needs.

In order to offset the potential impacts posed by the project on the livestock feed resources, measures will be taken to improve the feed resources in replacement of the flooded grazing resources by integrating improved forages and proper range management practices in the remaining rangeland areas. The improved forages include maintenance and planting of indigenous fodder species common to the area will be encouraged.

As for cropping systems a good understanding of livestock systems and the relative importance of the different constraints is essential prior to initiating improvement programme. The objectives of this identification are to understand the animal production system and production constraints and to identify breeding goals and practices of breeders as the first step towards developing a sustainable breed improvement programme.

Through the surveys and RRA’s conducted during the assessment of socio-economic base-line situation farmers have stressed the lack of livestock feed to be the most important limiting factor for productivity of their cattle, and indicated the importance of improving their feeding regime as an essential step towards any improvement program. Free grazing of rangelands is the most common feeding system. During the short wet season grasses grow rapidly producing abundant biomass. The body condition of the grazing animal is at its best during this period, but with the onset of the dry season both quantity and quality of the pasture herbage decline and fail to support any performance demand.

Most farmers in both Atbara river and Settit river areas also reported, in second rank of priority order incidences of diseases. Starting in the mid-eighties the veterinary services in the country declined and then witnessed a degree of collapse. This is attributed to the liberalization of the economy and the sudden shift from complete government sponsorship to private

veterinary services which provide care at market prices. As a result, the high cost of veterinary services and drugs put the service beyond the reach of poor herders and rural areas.

Milk production

Concerning genetic improvement of local cattle breeds farmer associations as service co-operatives seem to be an adequate starting point for genetic improvement programme, to extend services activities to dairy production (e.g. health, feeding, marketing, milk processing and breeding) and secondarily to meat production. Measures overcoming production constraints quoted above are given clear priority by cattle keepers, their realization, however, remains doubtful unless a stronger market orientation can be developed.

Breeding policies targeting livestock smallholders need to incorporate the multi-functional roles that livestock plays in these systems and should be targeted to those areas where market oriented milk production is possible. Genetic improvement programmes could be built on indigenous practices through additional support by government authorities

A comparable participatory feasibility study as for cropping systems improvement should content the following subject matters and improvement objectives :

- Animal health condition (veterinary services development) ;
- Improvement of fodder resources and animal feeding techniques ;
- Improved zootechnical practices, extension and training ;
- Identification of small poultry projects development ;
- Micro credit and campaign credit ;
- Commercialization: Marketing support services ;
- Promotion of farmers' organizations and associations ;
- ...

As for the other socio-economic development programmes above the feasibility of the agriculture and livestock development programmes will have to be discussed in a participatory with the PADUs/PAH first in the frame of the PICC and then in specific studies and surveys. Moreover such structural development programmes should target all the 74 villages of the impacted study area.

8.4.2.2 Fisheries development project

The construction of the dam will create an important reservoir of 240 km² with a maximum depth at dam site of 48 m, what represents an important potential for fisheries development. But the project will alter on the other hand the ecology of the aquatic fauna, changing a lotic ecosystem into a lentic one; as a result some fish species will increase in proportion and size, while others will decrease in relative abundance. The development project to be initiated will take in consideration this primary aspect of the ichthyofauna which characteristics will change over the years.

Aims of the project identification

The fishing activity will have the aim of creating jobs for the local dwellers, of developing the fisheries sector, including handling, transformation, storage, marketing and sales of fishing gears. At present the fisheries activity is in the hand of artisanal fishers who catch fish for their own consumption and to provide fish to the local markets: this activity is seasonal (mainly when the water level in both rivers is low), the fishers having other activities such as agriculture, livestock, petty business, etc. The reservoir will allow settling a fishing activity the year round for those who are temporary fishers and for some who have small activity and income in the region. Probably some professional fishers will come and work in the new reservoir.

Identification

In order to implement a fisheries development project, one has to estimate the future production of the reservoir, based on the existing species, the changes in species composition and the Maximum Sustainable Yield (MSY) of the reservoir. This can be estimated using empirical methods based on physical characteristics of the reservoir, such as : shoreline length, altitude, latitude, temperature, total dissolved solids (TDS) area of the catchment's area, average area of the water sheet over the years, and Morpho Edaphic Index (MEI) based on the conductivity. The empirical approach gives an estimate of the future level of capture before interventions such as stocking of species, control of the fishing effort (number of fishers, sizes of the gears – length, mesh size of the nets, other fishing methods), control and surveillance of the activity.

The water quality (turbidity, temperature) will change over the seasons, the water depth, the action taken in the basin – decrease/increase of erosion due to better agricultural practice, deforestation or tree plantation – renewal of the water; the different elements of the ichthyofauna will occupy niches related to these physical patterns.

Required data

The different data shall be collected in order to estimate the MSY:

- physical data: catchment area, altitude, latitude, morphometry of the reservoir (shoreline length, surface area, mean depth, volume),
- hydrological data: seasonal pattern of the inflowing rivers (most nutrients are brought during rainy season),
- chemical data (nutrient loading, annual water flow, and mean nutrient concentration).

The MSY can then be estimated from different empirical models and the average gives a rough estimate of the future production.

Fish composition and fishing effort

The distribution of the different fish species shall be identified in both rivers at 2 different periods of the year (when the water level begins to decrease and when it is at its minimum). Fishing tests have to be carried with different gears (mainly gillnets of different mesh sizes and lengths, and with baited hook lines). Percentage of species composition, average and maximum sizes shall be computed in different fishing stations of the two main inflowing riv-

ers. One list of species has been established (see report....) and shall be verified, completed, in order to know the relative importance of carnivorous and non carnivorous fishes. These data shall be compared with those of the fishermen (observations at the landing sites).

Once the dam is built, there will be normally a great development of Cichlidae (*Oreochromis* sp.) and Siluridae (*Clarias* sp.) and decrease of Mormyridae (*Mormyrus* sp.). Centropomidae (*Lates*) which require oxygenated water may increase in the upper layers of the deepest parts of the reservoir where water is less turbid.

Fishing effort has to be calculated in order for the fishermen to catch only adult species, to make enough catch to have a reasonable level of living; then the number of fishers, the size of the different gears, and the average number of fishing days per year will be estimated.

Results of the identification

The identification shall describe the complete chain from capture, transformation, marketing, including the needs in training, construction of landing centres and markets and establish cost estimates for the different investments. The option to install cold storage and ice making machines shall be studied.

Composition of the team and duration of the identification

The identification shall be carried out by two specialists, one fisheries biologist specialized in reservoir management, and one socio-economist (fluent in local language-s and with experience in fisheries) who will work in close collaboration; the two specialists would have twice 6 weeks to prepare the Reservoir...fisheries development project. The socio-economist will have to assess the number of existing fishermen, and the potentialities to attract new fishers (preferably young men who have presently no jobs), determine the needs in training, the location of marketing facilities, the transformation of produce. Ideally the two 6-week missions will take place at the end of the rainy season and when the rivers Atbara and Settit are close to the minimum flow (end of dry season). The split between field and report writing will be around 4 weeks and 2 weeks respectively.

8.4.2.3 Social and employment development programmes

Although agriculture and livestock are the main sources of income and subsistence for the great majority of PADUs/PAHs/PAPs, the global objective is to search also some degree of livelihood and economic diversification.

The importance of the non agricultural activities has been tackled during the surveys of the assessment of the socio-economic baseline situation (see volume?) and is recalled in appendix A1.5 for the PADUs/PAHs/PAPs. Many project affected households derive a relatively significant proportion of income from different types of non-farm income generating activities mainly consisting of small-scale trade, artisan and handicrafts, wage labor, the collection and sale of firewood and charcoal, etc.

However, it should be noted that the degree of engagement in non-farm activities (and hence and the related knowledge and experience) vary from *hush* to *hush* and from village to village. The social and employment development programmes will target in priority:

- Landless and jobless (or partially jobless) PADUs/PAHs and, particular vulnerable PAPs (women and young boys).
- PADUs/PAHs/PAPs practicing or having already experience of non-farming activities (agricultural wage labourers included).

Potential and development strategies could address the different following categories of full time or part time activities:

- Project construction related employment opportunities ;
- Small-scale trade ;
- Small businesses and services ;
- Artisan and Handicrafts ;
- Commercial fishery ;
- Labour saving technologies for Women ;
- Special assistance measures for vulnerable groups ;
- Tourism promotion actions and related employment creation ;
- ...

Project construction related employment opportunities

DCUAP is a large-scale project and the construction activities associated with main project (the dam and ancillary facilities) would need at peak period between 8 000 and 10 000 workers. Mitigation and development measures of the RAP like roads, water and electricity supply will create secondarily also labour force demand. During surveys and RRAs conducted during the baseline situation assessment it appears that many PAHs and young men expect to benefit from the project creation of employment.

Accordingly, as part of mitigation measures and socio(economic development programme it is important to ensure that PAHs/PAPs will benefit from project related employment opportunities on priority basis. This consists of the following two types of employment opportunities:

- Temporary employment in the form of unskilled and semi-skilled wage labour in construction activities related to the dam, relocation road, and construction of the DCUAP permanent camp; RAP construction programmes.
- Limited number of permanent in positions such as guards, janitors, messengers, etc.

In order to reach this goal special preference rules and procedures will have to be decided by the RAP High Political Steering Committee and will be clarified in a further stage of better identification study.

For an optimum and efficient development of small-scale trade, small businesses and services, service artisan and handicrafts activities the first measure would be most probably micro-credit and short term credit and secondarily training.

The issue of a potential fishery project is presented above (paragraph 8.4.2.2). It is assumed that related activities to the direct fisheries activities would create new job opportunities like boat making and repair, fishing nets production and supply, fish processing and distribution, fish retail etc.

Labour saving technologies for Women

Although it is expected that women in male-headed households will benefit from the various income restoration measures to which their households are entitled to, is important to recognize that conventional compensation and income restoration measure may not effectively reach them and women bear a disproportionate risk from involuntary displacement and resettlement processes (e.g. the risk of compensation money being squandered by men; the risk of being uprooted from farmland, homesteads and social networks; loose of access to basic resources such as firewood, water etc.).

This indicates that projects such as DCUAP should be viewed as opportunities to lighten the burden of women and assist them to improve their access to basic services and labour saving appropriate technologies from which not only women but also their households will benefit. It is well-known that the introduction of different types of labour saving technologies and services improve the well-being of rural women and the benefits are multidimensional including better health, environmental protection, and above all releasing the time energy of women to engage in other productive and income generating activities. Accordingly, as a specific gender-focused intervention of the RAP labour saving and wellbeing like energy-saving stoves, grain mills, etc.) will be implemented. That will leave in return time for women involvement in part time domestic economic activities (handicraft, poultry, garden production).

Special assistance measures for vulnerable groups

Homelessness, landlessness, malnutrition and food insecurity, increased morbidity and mortality, interruption of children's schooling are some of the major risks associated with involuntary displacement and resettlement. Vulnerable groups are specially exposed to these risks of impoverishment and destitution. Especial assistance measures are, therefore, necessary to cushion vulnerable groups from these risks. The special assistance measures do not substitute compensation and other income restoration measures to which vulnerable groups are entitled to like all other PADUs/PAHs/PAPs. In this regard the most important point to note is that for the very poor and vulnerable groups of PAPs the benefits from compensation will be very limited because their assets are very small to begin with and it will take time before the benefits from income restoration measures are realized.

Thus the need for additional temporary safety net measures shall be identified in the frame of socio-economic census and inventory, besides the special limited temporary allowance al-

ready suggested for the more or less 1 336 landless households roughly numbered during the surveys of the baseline situation assessment.

All these potential measures and strategies for social and economic development of non farming activities need be better identified and quantified in a further feasibility study that shall be highlighted I a first step through the socio-economic and inventory and the PICC. Provision for all these practical elementary feasibility studies are included in the provisional global studies and engineering cost of this PRAP.

9 COSTS AND BUDGET PRE ESTIMATES

A preliminary tentative PRAP overall budget estimate is provided table 5 below. It has been established on various assumptions, rough norms and ratios which has led at thi stage to a pre identification and dimensioning of the RAP component and programmes briefly described above. From this first dimensioning components and programmes costs have been estimated with the unit prices given in appendix A1.1.

The total PRAP investment budget is estimate at this stage at **125,6 millions US\$** and the maximum running costs annual budget at full development stage 4,4 million US\$, out of which a RAPIU functioning budget of 1,1 millions US\$.

The main salient feature and global estimate assumptions of this first PRAP budget estimate is summarized as follows :

- Direct compensation investments without development programmes and engineering costs: 75% of Total investment – Economic and social development programmes: 22% of total investment budget (on the basis of a first rough cost estimate of 3 000 US\$ per domestic unit beneficiary, all programmes together and all population of the study area targeted).
- Direct housing, land and income compensation: 59,1 millions US\$ (47% of total investments and 63%% of sub total direct compensation development budget). – a posteriori ratios of per 12 875 US\$ per affected domestic unit ; 5780 US\$ per affected household and 980 US\$ per affected person.
- Roads budget: 22,4 millions US\$ (18% of total investment budget and 24% of sub total direct investment budget).
- Village water supply and sanitation investment budget: 8,2 millions US\$ (9% of sub total direct compensation budget).
- Village electrification network: 3,3 millions US\$ (3% of sub total direct compensation investment budget).
- Provisional budget for a first step economic and social development programmes: (all together : agriculture and livestock, fisheries, social and employment development) :28,2 millions US\$ on the rough ratio of 3 000 US\$/domestic unit (9 402 DU of all the 74 villages of the impacted study area)
- Global budget provision for studies and engineering cost: 3 millions US\$ (3,5% of investment for buildings, constructions and physical works and technical equipments). This budget with the engineering self capacity of RAPIU should cover also the necessary studies costs of the economic development programmes (mainly fisheries project and agricultural and livestock development programmes and pilot projects).

In the further phase of a detailed design and programming of final RAP, Year 3, after the structuring of the RAP implementation institutional organization and the achievement of socio-economic census and inventory and the PICC, the budgeting of the RAP components and programmes should:

- Provide a clear statement of financial responsibility and authority.
- List the sources of funds for resettlement and describe the flow of funds.
- Ensure that the budget for resettlement is sufficient and included in the overall project budget.
- Precise resettlement costs, to be funded by the Government and the mechanisms that will be established to ensure coordination of disbursements with the RAP and the project schedule.
- Prepare an estimated budget, by cost and by item, for all resettlement costs including planning and implementation, management and administration, monitoring and evaluation, compensation and development programmes and pilot projects, and contingencies.
- Describe the specific mechanisms to adjust cost estimates and compensation payments for inflation and currency fluctuations.
- Describe the financial arrangements for external monitoring and evaluation.

TABLE 5 - RAP PRELIMINARY BUDGET ESTIMATE

U= US dollars

ITEM/COMPONENT	Investment cost	Yearly running costs
Private housing	45 684 484	
Administrative/Legna Chabiya Offices	462 000	
Mosques	1 320 000	
Shops compensation	225 000	
Land clearing for villages resettlement	353 651	
Land acquisition on traditional rainfed	557 070	
Karab rangeland compensation	3 554 255	
Irrigable land compensation	1 462 500	
Schools compensation & development	3 311 000	1 752 000
Health units compensation & development	545 000	241 700
Water supply development and sanitation	8 243 779	412 189
Electricity supply development	3 297 512	98 925
New secondary roads	10 400 000	312 000
Village feeder roads	12 000 000	360 000
Provision for boats and 2 ferry terminals	500 000	10 000
<i>Income compensations & special allowances</i>		
General installation allowance	1 147 605	
Special allowance for landless Domestic Units	300 600	
Compensation for loss of commerce activity	147 000	
Compensation for loss of handicraft services income	28 000	
Compensation for loss of seasonal fishermen income	29 000	
RAP Implementation Unit	830 000	1 089 500
SUB-TOTAL	94 398 455	4 276 314
Provision for a first step regional development programmes (agriculture, livestock, fisheries, tourism, social)	28 204 997	
Provision for studies & engineering costs	2 993 437	
GRAND TOTAL	125 596 888	4 276 314

10 PRELIMINARY IMPLEMENTATION SCHEDULE

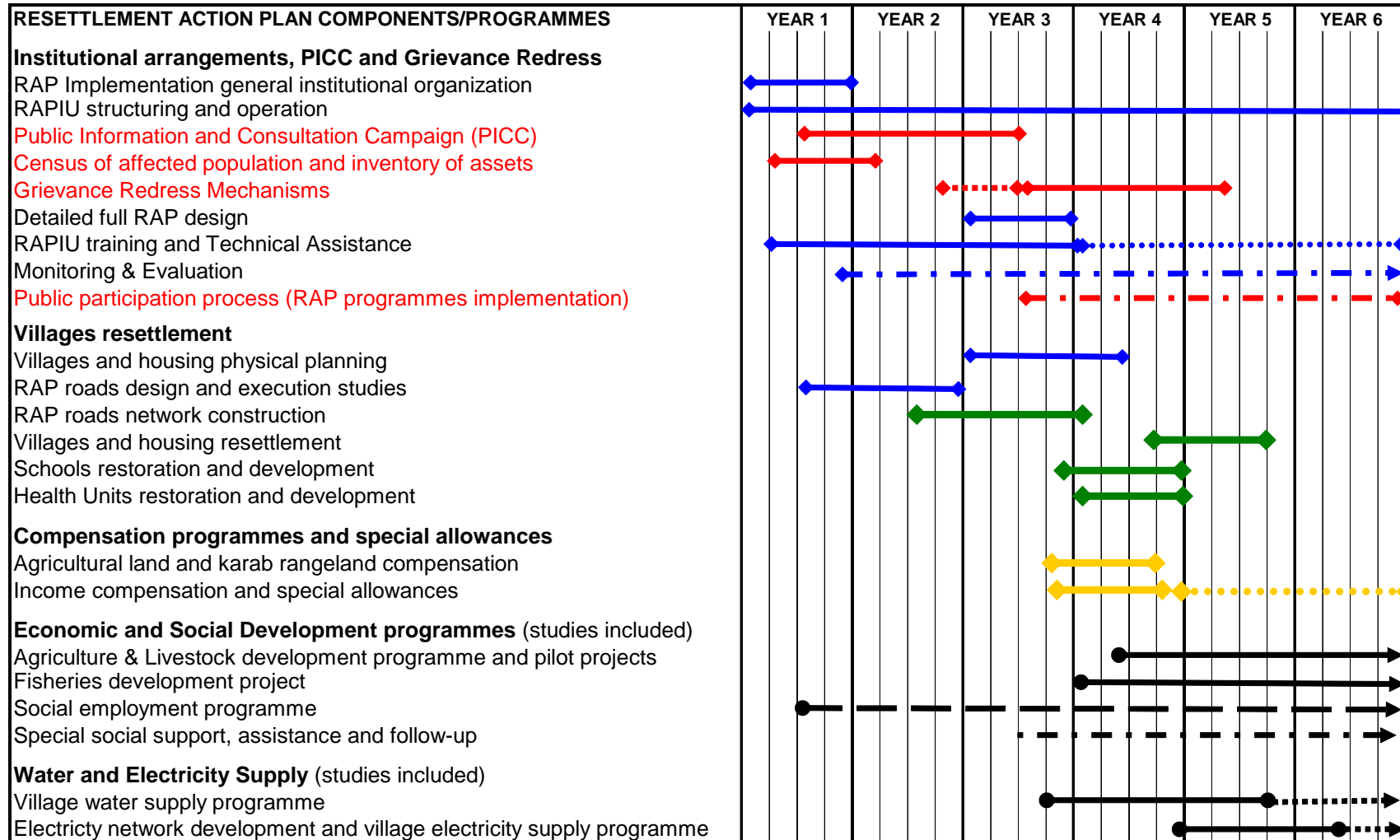
A tentative PRAP implementation schedule is given in figure 4 hereafter. It is based at this stage on the following safeguards assumptions:

- Filling phase of the reservoir : Year 5.
- Early achievement of the socio-economic census and inventory : beginning of Year 2 (maximum duration 1 year).
- Maximum duration of the PICC : 2 years (first general disclosure mid-Year 1).
- Final RAP elaboration and programming : Year 3.

In the further phase of final RAP design and programming implementation scheduling will have to:

- List the detailed chronological steps in implementation of the RAP, including identification of agencies responsible for each activity and with a brief explanation of each activity.
- Elaborate a PERT programming tool integrating inter-relations and of each chronological step, tasks, components and programmes. Such a PERT will be also an overall M&E tool which will allow to actualize yearly the RAP scheduling and programming.
- Prepare a month-by-month implementation schedule of activities to be undertaken as part of resettlement implementation.
- Describe the linkage between resettlement implementation and initiation of civil works for each of the project components.

Figure 4 – Tentative PRAP Implementation Schedule



11 MONITORING AND EVALUATION

Monitoring and evaluation (M&E) is an important and integral part of any project or program carried out. Its role is to provide information that allows for successful adaptive management and is a tool to disseminate information.

Information is usually collected in different forms and formats depending on the need of the user of the data, which in turn can possibly create inconsistencies regarding data compatibility and relevance. Construction related data serves different purposes to Social and Environmental related collected data. Also, expected changes and modification during project implementation with regards to utilized Land Parcel Areas (LPAs) and the number of affected assets will need to be well documented for monitoring purposes. Maintaining a database and recording the changes will prove to be beneficial for long term monitoring and evaluation.

To ensure that a RAP is implemented successfully and that the villagers materially improve their livelihood after resettlement, monitoring & evaluation consists usually of two components, internal and external:

- **Internal monitoring** will be conducted by the RAPIU/DIU, the High Technical Steering Committee and the High Political Steering Committee as a tool to assist in tracking progress and identifying problems during implementation and making necessary adjustments.
- **External monitoring** will be conducted by teams of independent monitors, who will use the internal monitoring data and possibly gather primary data to assess whether resettlement objectives have been met, such as assess resettlement efficiency, effectiveness, impact and sustainability, and whether resettlement entitlements and procedures were appropriate for meeting the objectives, and provide recommendations on necessary changes to the plans.

The details of the overall monitoring approach will have to be designed in detail in a further phase within the final RAP document, after socio-economic census and inventory and the PICC. At this stage of PRAP approach we will just outline hereafter the main leading principles and methods of both an internal and an external M&E process for the future RAP.

Internal monitoring comprises mainly:

1. Monitoring of detailed planning: Tracking the progress of the inventory of losses ; registration of these losses and Project Affected Social Entities (PASEs, and first of all PADUs and PAHs (the Baseline Study) ; consultations with PASEs ; preparation and disclosure of updated Resettlement Action Plan and their approval by High Level Political and Technical Steering Committees.

2. Day to day monitoring of the physical progress (reported monthly): Project implementation progress against the planned schedule in each approved Resettlement Action Plan component and programme including compensation payments, infrastructure development, house construction and relocation, delivery of replacement land, agricultural and fisheries development, replacement of social services, etc.
3. Process monitoring - Process monitoring is conducted to ensure that the consultation activities are being implemented, with due regard to socio-anthropological, gender and ethnic differences; and to ensure and record the effective implementation of the grievance mechanism.

In other words the main aim of the internal monitoring is to identify any problems with implementation and report those back to management for corrective action if needed. While outcome process monitoring will be the primary responsibility of the External and Independent Monitoring Agency, the internal monitoring teams will be required to obtain the socio economic data to measure the progress being made towards restoring land-based productivity and/or income levels. This is done usually via a Living Standard Monitoring process based on a random sampling survey correctly stratified in order to avoid too heavy surveys.

As illustrations at this stage questions asked are focused usually on the following topics:

- Domestic units and households information- Queries on the status of the domestic units and their households and other general information.
- Infrastructure Replacement/Impact- Queries regarding replaced infrastructure and project impacts.
- Grievance- Queries regarding the grievance procedure.
- Consultation- Queries regarding the consultations held and the information disseminated to the PASEs and local institutions..
- Livelihood Restoration- Queries regarding the livelihood restoration activities provided and the results of these. This section also inquires about the satisfaction of the different PASEs involved in these activities.
- Compensation- This section tackles the different types of compensation PASEs (mainly PADUs, PAHs and PAPs) have received.
- Expenditure and Consumption- Queries to obtain purchase trends and changes in expenditure.
- Subjective Wellbeing- Queries regarding PASEs present situation.
- Monitoring of construction phase social impacts – Queries regarding the impacts on local population and villages communities social cohesion of migrant workers and spontaneous 'camp followers' including family, traders, merchants and service providers.
- Socio-anthropological categories, Gender and ethnicity related monitoring with collection and follow-up of related data in order to assess if each social category and identity will be put or not in a more vulnerable situation will have or not a more dominated or dominant social status.

The monitoring survey aims to assess PASEs situations and obtain feedback regarding the strategy implemented by the RAPIU. The survey will also provide guidance for implementation of components and programmes still to be executed by the RAPIU.

External monitoring requires an independent assessment of whether the specific objectives for Project Affected Domestic Units and Household have or will be met, and whether actions taken adequately address the mitigation and compensation requirements. These assessments could be made alternatively by two independent monitoring and evaluation bodies:

- An Independent Consulting Agency (ICA) experimented in M&E methods and programmes consisting of a team of individual experts with extensive experience in resettlement planning, implementation and monitoring, socio-economic survey and analysis, rural development and environmental impact assessment, composed of both Sudanese consultants and International experts, and,
- A Panel of Social and Environmental Experts (POE), who will act independently of both DIU and Governmental stakeholders and in accordance with relevant World Bank guidelines, assessing whether mitigation measures and resettlement procedures adequately protect both the environment and the interests of those affected by DCUAP.

In a further step of detailed design of the final RAP, the M&E methods, mechanisms and process should more precisely:

- Describe the internal/performance monitoring process.
- Define key monitoring indicators derived from baseline survey. Provide a list of monitoring indicators that will be used for internal monitoring.
- Describe institutional (including financial) arrangements.
- Describe frequency of reporting and content for internal monitoring.
- Describe process for integrating feedback from internal monitoring into implementation.
- Define detailed methodology for external monitoring.
- Define key indicators for external monitoring.
- Describe frequency of reporting and content for external monitoring.
- Describe process for integrating feedback from external monitoring into implementation.
- Describe arrangements for final external evaluation.

APPENDICES

A1 – VILLAGES' RESETTLEMENT DATA BASE

A1.1 Unit costs utilized for RAP budget estimate

ITEM	UNIT	COST US \$	DESCRIPTION - COMMENTS
House unit (HU) compensation	1 house	2 000	2,2 HU in average/demographic household & 5 HU/Domestic Unit (hush) - 22 m2 - 2 rooms - fence/surrounding wall included
Administrative/Legna Chabiya Office	1 office	7 000	1 office/village - 75 m2 - 3 rooms + 1 meeting room
Mosque	1 mosque	20 000	1 mosque/village - 200 m2
Shops	1 shop	1 500	
Wooded land clearing (resettled villages)	1 feddan	500	
Traditional rainfed land compensation	1 feddan	1 500	Ten years of average agricultural income/feddan
Karab land compensation	1 feddan	75	
Irrigated land compensation	1 feddan	2 500	Net irrigated area - Replacement cost
Pre-schools	1 classroom	2 000	50 m2/pre-school - 2 classrooms/pre-school
Khalwa (Coranic school)	1 Khalwa	2 000	
Basic schools	1 classroom	7 500	50 m2/classroom
Additional teacher appointment	1 salary/month	1 000	
Health centre	1 centre	60 000	250 m2 - 1 doctor + 1 medical assistant + 1 nurse
Rural Clinic (<i>shafakhana</i>)	1 clinic	20 000	100 m2 - 1 medical assistant + 1 nurse
Basic health unit	1 unit	7 500	50 m2 - 1 nurse
Doctor salary	1 month	1 800	
Medical assistant salary	1 month	900	
Nurse salary	1 month	600	
Access main road	km	80 000	
Village feeder roads	km	30 000	
Water supply system equipment costs	1 inhabitant	75	
Rural Electrification network equipment costs	1 inhabitant	30	

ITEM	UNIT	COST US \$	DESCRIPTION - COMMENTS
General installation allowance/Domestic Unit	1 lump sum	250	
Special allowance for landless Domestic Units	1 allowance	225	2,5 \$/day/DU X 3 months
<i>Compensation for loss of non agricultural activities</i>			
Commerce activity	1 allowance	210	6 months of average commerce income/DU
Handicraft activities incomes	1 allowance	50	6 months of average handicraft activities income/DU
Seasonal fishermen	1 allowance	100	1-year of cash income/fisherman
RAP Implementation Unit			
Staff salaries			
Director/Head of Service	1 month	2 000	
Engineer	1 month	1 500	
Technician/accountant	1 month	1 250	
Secretaries/Skilled workers	1 month	625	
Unskilled workers	1 month	375	
Office expenditures			
1 equipment set/agent(professionals/accountants/secretaries)	1 set	2 000	
Office operating expenditure/month/agent	1 month	250	
Vehicles			
4 wheel-drive vehicle	1 vehicle	50 000	
Common car	1 vehicle	40 000	
Average running cost/vehicle/year	1 vehicle/year	8 000	

A1.2 Villages to resettle, resettlement sites and land acquisition

Name of villages	Location code	Ethnic groups	Total village surface -feddan	% of village to resettle	Village gross surface to resettle feddan	Total land acquisition needed feddan	Present land use of resettlement site option	Distance present village km	Average distance present agricultural lands	Land acquisition acreage on cropped area feddan	Wooded land clearing area	Observations (specific resettlement options, grouping/splitting up, ...)
Al Rumeila	ALB02	Arab	26	100%	26	12	Shrub savannah	3,3	2,5	0	12	Possible grouping of the two villages
Al Amara Wadazine	ALB03	Arab	62	100%	62	25	Shrub savannah	5,3	3,0	0	25	
AL Muneera Kobur	ALB04	Arab	77	100%	77	50	Shrub savannah	4,0	2,0	0	50	
Soufi Al Bachir	ALB05	Arab	54	100%	54	42	Shrub savannah	2,3	2,2	0	42	
Wad Al Merine	ALB06	Arab	24	100%	24	22	Shrub savannah	2,0	0,5	0	22	Possible grouping of the two villages
Wad Naim	ALB07	Arab	8	100%	8	9	Shrub savannah	2,0	0,5	0	9	
Oum Touaguaia	ALB09	Arab	40	100%	40	14	Shrub savannah	1,3	2,0	0	14	
Hillat Abdelmahmoud	ALB10	Arab	27	100%	27	10	Karab land	2,7	1,0	0	2	
Al Kreida	ALB11	Arab	64	100%	64	47	Shrub savannah	1,7	2,0	0	47	
Al Bahkar Ghrib	ALB12	Hausa - Zbarma - Bornou	105	100%	105	85	Karab land	2,0	2,0	0	17	
Shasola	ALB13	Zbarma	82	68%	56	45	Karab land	1,0	1,0	0	9	
Al Mentik	ALB14	Zbarma	78	100%	78	82	Karab land	1,3	1,0	0	16	
Faki Nouh	ALB15	Felata	13	100%	13	6	Karab land	0,6	3,0	0	1	Possible grouping of the two villages
Um Dawanban Ghrib	ALB16	Haoussa	27	100%	27	22	Karab land	2,3	1,7	0	4	
Hagueb Sidou	ALB17	Arab - Haoussa - Bornou - Borgou	92	100%	92	57	Karab + shrub savannah lands	4	3,7	0	28	
Al Jazeir Ghrib	ALB18	Arab	113	100%	113	33	Karab land	0,5	2,3	0	7	
Heleiba Ghrib	ALB19	Bornou - Haoussa - Zbarma	192	29%	56	32	Karab land	2,0	3,3	0	6	
Wad Gaber	ALB20	Zbarma	34	100%	34	37	Karab land	1,3	1,7	0	7	
Mashra Al Doum	ALB21	Bornou - Arab	84	100%	84	17	Karab land	0,5	2,0	0	3	

Name of villages	Location code	Ethnic groups	Total village surface -feddan	% of village to resettle	Village gross surface to resettle feddan	Total land acquisition needed feddan	Present land use of resettlement site option	Distance present village km	Average distance present agricultural lands	Land acquisition acreage on cropped area feddan	Wooded land clearing area	Observations (specific resettlement options, grouping/splitting up, ...)
Hilat Kow	ALB22	Felata - Hausa	35	100%	35	17	Karab land	0,5	2,3	0	3	
Hillat Ali Khalifa	ALB23	Felata	39	100%	39	35	Karab land	1,3	2,0	0	7	
Darabi Ghirb	ALB24	Arab - Zbarma - Felata - Borgou	342	5%	15	6	Karab land	0,2	3,3	0	1	
Al Dihab	ALB25	Felata - Arab	42	21%	9	6	Karab land	0,1	3,3	0	1	
Kona Felata	ALB27	Felata - Hausa - Others	67	5%	3	4	Karab land	0,1	3,3	0	1	
Digah(Hay El Mahtar)	ALB28	Beni Amer	23	100%	23	18	Karab land	0,5		0	4	
Sifaoua- Hokumah	ALB29	Pluriethnic	512	4%	19	13	Karab land	0,1	4,0	0	3	
Karai	ARB30	Hausa	25	100%	25	19	Trad. rainfed agric. land + savannah	1,3	0,5	17	0	Linear resettlement along the main central road of Big Fashaga
Kazourou	ARB31	Hausa	14	100%	14	15	Trad. rainfed agric. Land + savannah	2,0	0,5	13	0	Linear resettlement along the main central road of Big Fashaga
Taiba Sharq	ARB32	Hausa	13	100%	13	15	Trad. rainfed agric. Land + savannah	2,5	1,0	13	0	Linear resettlement along the main central road of Big Fashaga
Katurgui	ARB33	Hausa	54	100%	54	47	Trad. rainfed agric. Land + savannah	6,0	2,0	42	0	Linear resettlement along the main central road of Big Fashaga
Hashaba Maala	ARB34	Arab	64	100%	64	54	Trad. rainfed agric. Land + shrub savannah	4,3	1,3	27	27	
Wad Nager	ARB35	Arab	24	100%	24	14	Trad. Rainfed agric. Land	3,3	1,3	14	0	

Name of villages	Location code	Ethnic groups	Total village surface -feddan	% of village to resettle	Village gross surface to resettle feddan	Total land acquisition needed feddan	Present land use of resettlement site option	Distance present village km	Average distance present agricultural lands	Land acquisition acreage on cropped area feddan	Wooded land clearing area	Observations (specific resettlement options, grouping/splitting up, ...)
Madashi	ARB36	Hausa	28	100%	28	34	Shrub savannah + karab lands	6,5	2,3	0	17	
Wad El Haboub	ARB37	Felata	31	100%	31	16	Shrub savannah	4,0	1,7	0	12	
Al Bahkar Shirq	ARB38	Hausa	43	100%	43	33	Trad; agric. Land	3,7	1,0	33	0	
Al Amara Shirq	ARB39	Felata	26	100%	26	75	Karab +trad. Rainfed agric. lands	1,0	3,3	15	0	
Hillat Hachem	ARB40	Felata	18	100%	18	6	Shrub savannah	3,7	1,7	0	6	
Um Dawaban Shirq	ARB41	Hausa - Zbarma	20	100%	20	25	Shrub savannah	5,0	2,0	0	25	
Al Jazeir Shirq	ARB42	Arabic	36	100%	36	11	Karab land	0,7	1,3	0	2	
Khorshet	ARB43	Felata	60	100%	60	29	Karab land	1,3	2,3	0	6	
Tuletha	ARB44	Felata - Arabic	43	100%	43	30	Karab land	1,7	1,7	0	6	
Heleiba Shirq	ARB45	Hausa	56	100%	56	35	Karab land	1,3	1,3	0	7	
Banat Shirq	ARB46	Arabic - (Zbarma)	32	100%	32	12	Karab land	1,7	1,3	0	2	
Hillat Khalil Shirq	ARB47	Zbarma - (Bilala)	30	100%	30	19	Karab land	1,3	1,3	0	4	
Al Bagbaga	ARB48	Zbarma	88	84%	74	37	Karab land	0,5	2,0	0	7	
Ghiriegana	ARB49	Arab	38	78%	30	8	Karab land	0,2	1,5	0	2	
Darabi Shirq (Hillat Ali Goroum)	ARB50	Felata	35	100%	35	14	Karab land	0,5	2,3	0	3	
Mugrane Basalam	ARB51	Dajo - Bilala - Massaleit	49	100%	49	41	Karab land	1,5	3,3	0	8	
Blrguima	SLB52	Hausa	7	100%	7	5	Trad. rainfed agric. Land + savannah	1,7	0,7	5	0	Linear resettlement along the main central road of Big Fashaga
Banza	SLB53	Hausa	106	100%	106	51	Trad. rainfed agric. Land + savannah	2,0	0,7	46	0	Linear resettlement along the main central road of Big Fashaga

Name of villages	Location code	Ethnic groups	Total village surface -feddan	% of village to resettle	Village gross surface to resettle feddan	Total land acquisition needed feddan	Present land use of resettlement site option	Distance present village km	Average distance present agricultural lands	Land acquisition acreage on cropped area feddan	Wooded land clearing area	Observations (specific resettlement options, grouping/splitting up, ...)
Hawata Gadid	SLB54	Hausa	9	100%	9	7	Trad. rainfed agric. Land + savannah	1,3	0,5	7	0	Linear resettlement along the main central road of Big Fashaga
Hillat Hassan	SLB55	Hausa	5	100%	5	3	Trad. rainfed agric. land + savannah	2,0	0,5	3	0	Linear resettlement along the main central road of Big Fashaga
Hillat Gadid	SLB56	Hausa	70	100%	70	9	Trad. rainfed agric. land + karab	0,8	3,3	4	1	
Barnawi	SLB57	Felata - Hausa - Bornou	108	56%	61	46	Trad. rainfed agric. land + karab	0,5	3,3	23	5	
U'sham	SLB58	Felata - Hausa - Bornou	84	47%	40	34	Karab land	1,3	3,3	0	7	
Abu U'sher Ghrib	SLB59	Felata - Beja (Mariah)	83	56%	47	17	Karab land	0,5	4,0	0	3	
Al Hashaba	SLB62	Pluriethnic	117	12%	14	6	Karab land	0,1	5,0	0	0	
Wad El Hedy	SRB65	Arab	35	100%	35	10	Shrub savannah	5,3	2,7	0	10	
Tayboune	SRB66	Bornou - Hausa	24	100%	24	29	Shrub savannah	6,0	2,7	0	29	Possible grouping of the two villages
Hillat Zakariya	SRB67	Hausa	50	100%	50	102	Shrub savannah	6,0	2,7	0	102	
Berdana	SRB68	Hausa	23	100%	23	30	Shrub savannah	6,0	2,7	0	30	
Gaber El Maksour	SRB69	Arab	94	100%	94	37	Shrub savannah	6,0	3,0	0	37	
Guerma Guerma (Shaloguy)	SRB70	Beni Amer	24	100%	24	31	Karab land	2,0	2,0	0	6	
Banza Shirq	SRB71	Hausa	1	100%	1	7	Karab land	1,7	0,7	0	1	
Dar Hilla	SRB72	Beni Amer	12	29%	3	2	Karab land	0,1	2,3	0	0	
Wad El Helew	SRB73	Town	731	38%	277	217	Trad. rainfed agric. land + savannah	1,0	5,0	108	0	
Abu Usher Shirq	SRB74	Felata	127	2%	3	1	Karab land	0,1	4,0	0	0	

Name of villages	Location code	Ethnic groups	Total village surface -feddan	% of village to resettle	Village gross surface to resettle feddan	Total land acquisition needed feddan	Present land use of resettlement site option	Distance present village km	Average distance present agricultural lands	Land acquisition acreage on cropped area feddan	Wooded land clearing area	Observations (specific resettlement options, grouping/splitting up, ...)
TOTAL			5 700		2 880	1 977				371	707	

A1.3 Population and housing to resettle

Name of villages	Location	Ethnic groups	% of vil- lage to resettle	Net future housing acreage ac- cording to Merowe norm	Total land acquisition needed feddan	Nb. People 2008 Cen- sus	Nb. House- holds 2008 census	Nb. Domes- tic units - Hushs	Nb. of house units to compen- sate
Al Rumeila	ALB02	Arab	100%	8	12	338	58	30	104
Al Amara Wadazine	ALB03	Arab	100%	18	25	664	124	24	223
AL Muneera Kobur	ALB04	Arab	100%	35	50	1 374	243	125	437
Soufi Al Bachir	ALB05	Arab	100%	29	42	1 106	204	113	367
Wad Al Merine	ALB06	Arab	100%	15	22	556	107	18	193
Wad Naim	ALB07	Arab	100%	7	9	206	46	19	83
Oum Touaguia	ALB09	Arab	100%	10	14	398	71	30	128
Hillat Abdelmahmoud	ALB10	Arab	100%	7	10	238	48	44	86
Al Kreida	ALB11	Arab	100%	33	47	1 181	228	195	410
Al Bahkar Ghrib	ALB12	Hausa - Zbarma - Bornou	100%	59	85	2 501	416	136	1 082
Shasola	ALB13	Zbarma	68%	31	45	1 376	218	66	568
Al Mentik	ALB14	Zbarma	100%	58	82	2 497	404	375	1 050
Faki Nouh	ALB15	Felata	100%	4	6	149	27	20	51
Um Dawanban Ghrib	ALB16	Hausa	100%	15	22	704	107	26	278
Hagueb Sidou	ALB17	Arab - Hausa - Bornou - Borgou	100%	40	57	1 894	277	252	609
Al Jazeir Ghrib	ALB18	Arab	100%	23	33	788	162	56	292
Heleiba Ghrib	ALB19	Bornou - Hausa - Zbarma	29%	23	32	868	158	66	412
Wad Gaber	ALB20	Zbarma	100%	26	37	1 142	179	163	465
Mashra Al Doum	ALB21	Bornou - Arab	100%	12	17	474	81	48	178
Hilat Kow	ALB22	Felata - Hausa	100%	12	17	409	81	22	178
Hillat Ali Khalifa	ALB23	Felata	100%	25	35	900	174	100	331

Name of villages	Location	Ethnic groups	% of vil- lage to resettle	Net future housing acreage ac- cording to Merowe norm	Total land acquisition needed feddan	Nb. People 2008 Cen- sus	Nb. House- holds 2008 census	Nb. Domes- tic units - Hushs	Nb. of house units to compen- sate
Darabi Ghirb	ALB24	Arab - Zbarma - Felata - Borgou	5%	4	6	171	31	25	69
Al Dihab	ALB25	Felata - Arab	21%	5	6	156	32	7	59
Kona Felata	ALB27	Felata - Hausa - Others	5%	3	4	97	19	17	42
Digah(Hay El Mahtar)	ALB28	Beni Amer	100%	12	18	499	88	35	123
Sifaoua- Hokumah	ALB29	Pluriethnic	4%	9	13	357	64	47	142
Karai	ARB30	Hausa	100%	18	26	874	127	115	330
Kazourou	ARB31	Hausa	100%	14	20	600	96	87	250
Taiba Sharq	ARB32	Hausa	100%	14	20	776	98	20	255
Katurgui	ARB33	Hausa	100%	44	62	1 912	306	80	796
Hashaba Maala	ARB34	Arab	100%	50	71	2 346	350	88	630
Wad Nager	ARB35	Arab	100%	10	14	376	70	34	126
Madashi	ARB36	Hausa	100%	24	34	1 047	166	25	432
Wad El Haboub	ARB37	Felata	100%	11	16	440	80	13	152
Al Bahkar Shirq	ARB38	Hausa	100%	31	44	1 528	218	50	567
Al Amara Shirq	ARB39	Felata	100%	70	100	3 183	490	122	930
Hillat Hachem	ARB40	Felata	100%	4	6	187	31	15	59
Um Dawaban Shirq	ARB41	Hausa - Zbarma	100%	17	25	807	121	14	315
Al Jazeir Shirq	ARB42	Arabic	100%	7	11	230	52	18	94
Khorshet	ARB43	Felata	100%	20	29	844	143	115	272
Tuletha	ARB44	Felata - Arabic	100%	21	30	808	147	64	272
Heleiba Shirq	ARB45	Hausa	100%	25	35	1 150	173	14	450
Banat Shirq	ARB46	Arabic - (Zbarma)	100%	9	12	326	61	31	110
Hillat Khalil Shirq	ARB47	Zbarma - (Bilala)	100%	13	19	326	94	25	244

Name of villages	Location	Ethnic groups	% of vil- lage to resettle	Net future housing acreage ac- cording to Merowe norm	Total land acquisition needed feddan	Nb. People 2008 Cen- sus	Nb. House- holds 2008 census	Nb. Domes- tic units - Hushs	Nb. of house units to compen- sate
Al Bagbaga	ARB48	Zbarma	84%	26	37	1 176	181	46	471
Ghiriegana	ARB49	Arab	78%	5	8	154	38	14	69
Darabi Shirq (Hillat Ali Goroum)	ARB50	Felata	100%	10	14	347	68	42	129
Mugrane Basalam	ARB51	Dajo - Bilala - Massaleit	100%	29	41	1 036	201	87	482
Blrguima	SLB52	Hausa	100%	5	7	268	34	14	88
Banza	SLB53	Hausa	100%	48	68	2 039	333	112	866
Hawata Gadid	SLB54	Hausa	100%	7	10	328	48	13	125
Hillat Hassan	SLB55	Hausa	100%	3	4	160	19	9	49
Hillat Gadid	SLB56	Hausa	100%	6	9	303	42	21	109
Barnawi	SLB57	Felata - Hausa - Bornou	56%	32	46	1 080	227	26	511
U'sham	SLB58	Felata - Haoussa -Bornou	47%	24	34	1 109	165	43	372
Abu U'sher Ghrib	SLB59	Felata - Beja (Mariah)	56%	12	17	467	84	17	144
Al Hashaba	SLB62	Pluriethnic	12%	4	6	188	31	11	69
Wad El Hedy	SRB65	Arab	100%	7	10	285	50	18	90
Tayboune	SRB66	Bornou - Haousa	100%	20	29	798	140	29	364
Hillat Zakariya	SRB67	Haoussa	100%	71	102	2 850	500	80	1 300
Berdana	SRB68	Haoussa	100%	21	30	827	145	145	377
Gaber El Maksour	SRB69	Arab	100%	26	37	1 026	180	20	324
Guerma Guerma (Shaloguy)	SRB70	Beni Amer	100%	21	31	855	150	80	210
Banza Shirq	SRB71	Hausa	100%	5	7	194	34	6	88
Dar Hilla	SRB72	Beni Amer	29%	2	2	66	12	6	16
Wad El Helew	SRB73	Town	38%	152	217	6 061	1 063	759	2 339
Abu Usher Shirq	SRB74	Felata	2%	1	1	20	4	1	7

Name of villages	Location	Ethnic groups	% of vil- lage to resettle	Net future housing acreage ac- cording to Merowe norm	Total land acquisition needed feddan	Nb. People 2008 Cen- sus	Nb. House- holds 2008 census	Nb. Domes- tic units - Hushs	Nb. of house units to compen- sate
TOTAL				1 460	2 085	60 443	10 221	4 590	22 842

A1.4 Loss of agricultural land and rangeland (*karab*)

Name of villages	Location	Ethnic groups	Livestock total equivalent Small Ruminants Zootechnical Units (ZU)	% of village to resettle	Loss of irrigable lands (feddan)	Rainfed agricultural land to compensate (feddan)	Loss of Karab lands feddan	Nb. ZU/feddan of karab lost
Al Rumeila	ALB02	Arab	2 250	100%	15			
Al Amara Wadazine	ALB03	Arab	2 424	100%	15		4 314	6,0
AL Muneera Kobur	ALB04	Arab	9 375	100%	5			
Soufi Al Bachir	ALB05	Arab	8 500	100%	5			
Wad Al Merine	ALB06	Arab	2 118	100%	0			
Wad Naim	ALB07	Arab	1 425	100%	0			
Oum Touaguia	ALB09	Arab	2 250	100%	0			
Hillat Abdelmahmoud	ALB10	Arab	3 273	100%	0			
Al Kreida	ALB11	Arab	14 625	100%	15		7 206	5,6
Al Bahkar Ghrib	ALB12	Hausa - Zbarma - Bornou	1 822	100%	5			
Shasola	ALB13	Zbarma	824	68%	0			
Al Mentik	ALB14	Zbarma	2 980	100%	50			
Faki Nouh	ALB15	Felata	762	100%	0			
Um Dawanban Ghrib	ALB16	Haoussa	1 386	100%	80			
Hagueb Sidou	ALB17	Arab - Hausa - Bornou - Borgou	10 536	100%	50			
Al Jazeir Ghrib	ALB18	Arab	4 200	100%	5		2 552	8,6
Heleiba Ghrib	ALB19	Bornou - Hausa - Zbarma	741	29%	20			
Wad Gaber	ALB20	Zbarma	856	100%	5			
Mashra Al Doum	ALB21	Bornou - Arab	499	100%	5			
Hilat Kow	ALB22	Felata - Hausa	268	100%	0			
Hillat Ali Khalifa	ALB23	Felata	2 968	100%	5			
Darabi Ghrib	ALB24	Arab - Zbarma - Felata - Borgou	16 640	5%	20			
Al Dihab	ALB25	Felata - Arab	1 618	21%	75		1 682	13,6
Kona Felata	ALB27	Felata - Hausa - Others	4 784	5%	15			
Digah(Hay El Mahtar)	ALB28	Beni Amer	11 620	100%	0			
Sifaoua- Hokumah	ALB29	Pluriethnic	4 820	4%	20			
Karai	ARB30	Hausa	1 218	100%	20	17		
Kazourou	ARB31	Hausa	306	100%	5	13	7 512	1,6
Taiba Sharq	ARB32	Hausa	330	100%	12	13		
Katurgui	ARB33	Hausa	660	100%	20	42		
Hashaba Maala	ARB34	Arab	6 600	100%	5	27		
Wad Nager	ARB35	Arab	2 550	100%	5	14		

Name of villages	Location	Ethnic groups	Livestock total equivalent Small Ruminants Zootechnical Units (ZU)	% of village to resettle	Loss of irrigable lands (feddan)	Rainfed agricultural land to compensate (feddan)	Loss of Karab lands feddan	Nb. ZU/feddan of karab loss
Madashi	ARB36	Hausa	450	100%	5			
Wad El Haboub	ARB37	Felata	5 384	100%	5		3 830	2,0
Al Bahkar Shirq	ARB38	Hausa	524	100%	15	33		
Al Amara Shirq	ARB39	Felata	254	100%	15	15		
Hillat Hachem	ARB40	Felata	1 368	100%	40			
Um Dawaban Shirq	ARB41	Hausa - Zbarma	224	100%	82			
Al Jazeir Shirq	ARB42	Arabic	1 818	100%	10		3 102	5,8
Khorshet	ARB43	Felata	4 453	100%	20			
Tuletha	ARB44	Felata - Arabic	3 926	100%	4			
Heleiba Shirq	ARB45	Hausa	524	100%	15			
Banat Shirq	ARB46	Arabic - (Zbarma)	2 325	100%	10			
Hillat Khalil Shirq	ARB47	Zbarma - (Bilala)	250	100%	0			
Al Bagbaga	ARB48	Zbarma	1 630	84%	30			
Ghiriegana	ARB49	Arab	1 350	78%	0			
Darabi Shirq (Hillat Ali Goroum)	ARB50	Felata	1 701	100%	5		2 093	0,4
Mugrane Basalam	ARB51	Dajo - Bilala - Massaleit	871	100%	35			
Blrguima	SLB52	Hausa	300	100%	30	5	1 549	2,1
Banza	SLB53	Hausa	2 935	100%	10	46		
Hawata Gadid	SLB54	Hausa	350	100%	0	7	3 146	3,9
Hillat Hassan	SLB55	Hausa	150	100%	15	3		
Hillat Gadid	SLB56	Hausa	212	100%	0	4		
Barnawi	SLB57	Felata - Hausa - Bornou	778	56%	15	23		
U'sham	SLB58	Felata - Hausa - Bornou	624	47%	20			
Abu U'sher Ghrib	SLB59	Felata - Beja (Mariah)	8 403	56%	20			
Maghareef Ghrib	SLB60	Borgou - Felata - Beni Amer	1 287	0%	15			
Nakoura Ghrib	SLB61	Hausa - Felata	572	0%	50			
Al Hashaba	SLB62	Pluriethnic	870	12%	20		2 126	0,4
Wad El Hedy	SRB65	Arab	1 350	100%	0			
Tayboune	SRB66	Bornou - Hausa	306	100%	30			
Hillat Zakariya	SRB67	Hausa	400	100%	0		3 898	2,1
Berdana	SRB68	Hausa	0	100%	17			
Gaber El Maksour	SRB69	Arab	1 620	100%	70			
Guerma Guerma (Shaloguy)	SRB70	Beni Amer	3 606	100%	0			
Banza Shirq	SRB71	Hausa	146	100%	15			

Name of villages	Location	Ethnic groups	Livestock total equivalent Small Ruminants Zootechnical Units (ZU)	% of village to resettle	Loss of irrigable lands (feddan)	Rainfed agricultural land to compensate (feddan)	Loss of Karab lands feddan	Nb. ZU/feddan of karab loss
Dar Hilla	SRB72	Beni Amer	2 350	29%	0			
Wad El Helew	SRB73	Town	90 150	38%	0	108	3 133	32,1
Abu Usher Shirq	SRB74	Felata	3 000	2%	5			
Maghareef Shirq	SRB75	Pluriethnic	7 500	0%	60			
Tabouassib	SRB77	Arab	21 180	0%	10		1 248	17,0
TOTAL			300 369		1 170	371	47 390	6,3

A1.5 Affected Non-agricultural activities

NAME VILLAGE	CODE	ETHNIC GROUP	Nb Households 2008 census	Nb.Domestic Units - Hush	NB HUSH LANDLESS	CRAFTSMEN	MECHANICS	MERCHANTS	FISHERMEN
Al Rumeila	ALB02	Arabic	58	30	0	0	0	3	0
Al Amara Wadazine	ALB03	Arabic	124	24	0	0	0	0	0
AL Muneera Kobur	ALB04	Arabic	243	125	20	0	0	2	0
Soufi Al Bachir	ALB05	Arabic	204	113	0	8	4	2	0
Wad Al Merine	ALB06	Arabic	107	18	0	0	0	0	0
Wad Naim	ALB07	Arabic	46	19		0	0	0	0
Teleta ou Teletine (Hillat Al Imam)	ALB08	Arabic	45	8	8	0	0	0	0
Oum Touaguia	ALB09	Arabic	71	30	0	0	4	0	0
Hillat Abdelmahmoud	ALB10	Arabic	48	44	8	0	0	0	0
Al Kreida	ALB11	Arabic	228	195	0	0	0	5	0
Al Bahkar Ghrib	ALB12	Haoussa - Zbarma - Bornou	416	136	0	8	1	4	10
Shasola	ALB13	Zbarma	322	98	0	20	0	0	0
Al Mentik	ALB14	Zbarma	404	375	0	7	3	20	10
Faki Nouh	ALB15	Felata	27	20	2	0	0	0	0
Um Dawanban Ghrib	ALB16	Haoussa	107	26	1	3	1	15	5
Hagueb Sidou	ALB17	Arabic - Haoussa - Bornou - Borgou	277	252	0	20	3	25	3
Al Jazeir Ghrib	ALB18	Arabic	162	56	56	0	0	0	0
Heleiba Ghrib	ALB19	Bornou - Haoussa - Zbarma	545	227	0	18	3	11	10
Wad Gaber	ALB20	Zbarma	179	163	0	12	5	4	0
Mashra Al Doum	ALB21	Bornou - Arabic	81	48	2	20	0	3	3
Hilat Kow	ALB22	Felata - Haoussa	81	22	0	4	0	2	0
Hillat Ali Khalifa	ALB23	Felata	174	100	10	20	0	4	4
Darabi Ghrib	ALB24	Arabic - Zbarma - Felata - Borgou	697	550	60	3	5	150	0
Al Dihad	ALB25	Felata - Arabic	151	35	0	10	1	7	5

NAME VILLAGE	CODE	ETHNIC GROUP	Nb Households 2008 census	Nb.Domestic Units - Hush	NB HUSH LANDLESS	CRAFTSMEN	MECHANICS	MERCHANTS	FISHERMEN
Kona Zbarma	ALB26	Zbarma	417	68	0	15	5	20	30
Kona Felata	ALB27	Felata - Haoussa - Others	386	350	83	3	1	10	5
Digah(Hay El Mahtar)	ALB28	Beni Amer	88	35	35	0	0	5	0
Sifaoua- Hokumah	ALB29	Pluriethnic	1 736	1 260	200	60	5	50	12
Karai	ARB30	Haoussa	127	115	0	39	4	12	0
Kazourou	ARB31	Haoussa	96	87	?	63	1	13	20
Taiba Shirq	ARB32	Haoussa	98	20	0	5	0	5	20
Katurgui	ARB33	Haoussa	306	80	0	10	5	20	20
Hashaba Maala	ARB34	Arabic	350	88	0	0	0	0	0
Wad Nager	ARB35	Arabic	70	34	0	0	2	5	0
Madashi	ARB36	Haoussa	166	25	0	10	3	5	5
Wad El Haboub	ARB37	Felata	80	13	0	0	0	0	0
Al Bahkar Shirq	ARB38	Haoussa	218	50	0	24	2	6	30
Al Amara Shirq	ARB39	Felata	490	122	4	0	0	3	0
Hillat Hachem	ARB40	Felata	31	15	0	0	0	2	0
Um Dawaban Shirq	ARB41	Haoussa - Zbarma	121	14	2	3	1	4	10
Al Jazeir Shirq	ARB42	Arabic	52	18	8	0	0	2	0
Khorshet	ARB43	Felata	143	115	0	20	0	10	0
Tuletha	ARB44	Felata - Arabic	147	64	0	20	0	20	0
Heleiba Shirq	ARB45	Haoussa	173	14	5	7	1	8	10
Banat Shirq	ARB46	Arabic - (Zbarma)	61	31	20	0	0	0	0
Hillat Khalil Shirq	ARB47	Zbarma - (Bilala)	94	25	5	10	0	6	0
Al Bagbaga	ARB48	Zbarma	215	55	0	10	2	25	0
Ghiriegana	ARB49	Arabic	49	18	0	0	0	1	0
Darabi Shirq (Hillat Ali Goroum)	ARB50	Felata	68	42	0	0	0	5	0
Mugrane Basalam	ARB51	Dajo - Bilala - Massaleit	201	87	9	2	4	13	13
Blrguima	SLB52	Haoussa	34	14	5	1	0	10	5
Banza	SLB53	Haoussa	333	112	0	?	2	10	?
Hawata Gadid	SLB54	Haoussa	48	13	0	4	0	2	2

NAME VILLAGE	CODE	ETHNIC GROUP	Nb Households 2008 census	Nb.Domestic Units - Hush	NB HUSH LANDLESS	CRAFTSMEN	MECHANICS	MERCHANTS	FISHERMEN
Hillat Hassan	SLB55	Haoussa	19	9	0	0	0	1	0
Hillat Gadid	SLB56	Haoussa	42	21	0	0	0	0	3
Barnawi	SLB57	Felata - Haoussa - Bornou	403	47	0	0	2	7	3
U'sham	SLB58	Felata - Haoussa - Bornou	350	90	5	17	2	24	15
Abu U'sher Ghib	SLB59	Felata - Beja (Mariah)	150	30	0	0	0	0	0
Maghareef Ghib	SLB60	Borgou - Felata - Beni Amer	114	40	3	0	0	4	0
Nakoura Ghib	SLB61	Haoussa - Felata	150	33	1	4	0	10	10
Al Hashaba	SLB62	Pluriethnic	256	88	70	15	0	25	4
Guiraine	SRB63	Beni Amer	320	100	30	0	0	0	0
Oum Ali El Wifaq	SRB64	Beja (various tribes)	300	120	45	10	0	20	0
Wad El Hedy	SRB65	Arabic	50	18	15	0	0	0	0
Tayboune	SRB66	Bornou - Haoussa	140	29	0	20	2	5	2
Hillat Zakariya	SRB67	Haoussa	500	80	60	5	6	5	0
Berdana	SRB68	Haoussa	145	145	0	10	0	3	3
Gaber El Maksour	SRB69	Arabic	180	20	10	0	0	3	0
Guerma Guerma (Shaloguy)	SRB70	Beni Amer	150	80	8	10	0	3	0
Banza Shirq	SRB71	Haoussa	34	6	0	0	0	0	2
Dar Hilla	SRB72	Beni Amer	40	21	7	0	0	0	0
Wad El Helew	SRB73	Ville	2 800	2 000	350	100	10	80	10
Abu Usher Shirq	SRB74	Felata	150	55	0	4	0	15	0
Maghareef Shirq	SRB75	Pluriethnic	600	271	8	6	0	50	4
Guira	SRB76	Bornou - Haoussa	500	82	31	17	0	1	2
Tabouassib	SRB77	Arabic	500	280	150	15	0	8	0
TOTAL			19 087	9 363	1 336	692	90	793	290

A1.6 Schools compensation and development

NAME VILLAGE	CODE	NB PRE-SCHOOLS	NB PUPILS PRE-SCHOOLS	NB. OF CLASSROOMS PRESCHOOLS	NB KHALAWA	NB BASIC SCHOOLS/TOTAL	NB TEACHERS BASIC	NB. OF CLASSROOMS BASIC SCHOOLS	FUTURE ADDITIONAL CLASROOMS	ADDITIONAL TEACHERS BASIC SCHOOLS
Al Rumeila	ALB02				0	1	10	3	1	
Al Amara Wadazine	ALB03				1	0	0		4	4
AL Muneera Kobur	ALB04	1	40	2	0	1	12	8	4	
Soufi Al Bachir	ALB05	1	65	3	1	2	18	15		
Wad Al Merine	ALB06								4	4
Wad Naim	ALB07								2	2
Oum Touaguia	ALB09								4	4
Hillat Abdelmahmoud	ALB10								2	2
Al Kreida	ALB11	1	74	4	2	1	11	7	4	
Al Bahkar Ghrib	ALB12	1	100	5	10	2	11	12	6	6
Shasola	ALB13				5	1	9	3	6	
Al Mentik	ALB14	1	150	7	3	2	8	10	6	6
Faki Nouh	ALB15				1				2	2
Um Dawanban Ghrib	ALB16				0				4	4
Hagueb Sidou	ALB17	1	120	6	4	3	17	14	4	1
Al Jazeir Ghrib	ALB18				1	1	3	2	2	1
Heleiba Ghrib	ALB19				4	1	9	11	6	6
Wad Gaber	ALB20	4	125	8	2	2	17	13		
Mashra Al Doum	ALB21				3	0	0	2	2	4
Hilat Kow	ALB22				1	0	0	2	2	4
Hillat Ali Khalifa	ALB23	1	80	4	2	1	8	6	2	
Al Dihad	ALB25				2	1	10		2	
Digah(Hay El Mahtar)	ALB28				1		0		2	2
Karai	ARB30				1	1	4	3	4	3
Kazourou	ARB31				2	1	3	3	2	2
Taiba Sharq	ARB32				1	0	0		2	2

NAME VILLAGE	CODE	NB PRE-SCHOOLS	NB PUPILS PRE-SCHOOLS	NB. OF CLASSROOMS PRESCHOOLS	NB KHALAWA	NB BASIC SCHOOLS/TOTAL	NB TEACHERS BASIC	NB. OF CLASSROOMS BASIC SCHOOLS	FUTURE ADDITIONAL CLASROOMS	ADDITIONAL TEACHERS BASIC SCHOOLS
Katurgui	ARB33				6	2	7	4	6	3
Hashaba Maala	ARB34	1	115	6	4	1	2	3	8	8
Wad Nager	ARB35				1	1	7	4		
Madashi	ARB36				2		0		4	4
Wad El Haboub	ARB37						0		2	2
Al Bahkar Shirq	ARB38				4	1	9	8	4	4
Al Amara Shirq	ARB39				1		0		6	6
Hillat Hachem	ARB40				1	1	4	4		
Um Dawaban Shirq	ARB41				3	1	8	10		
Al Jazeir Shirq	ARB42				1		0		2	2
Khorshet	ARB43				3		0		4	4
Tuletha	ARB44	1	40	2	2	1	9	8		
Heleiba Shirq	ARB45	1	53	3	2	1	?	4	4	4
Banat Shirq	ARB46						0		2	2
Hillat Khalil Shirq	ARB47				2		0		2	2
Al Bagbaga	ARB48	1	130	7	5	2	12	13		
Ghiriegana	ARB49				0		0		2	2
Darabi Shirq (Hillat Ali Goroum)	ARB50				3		0		2	2
Mugrane Basalam	ARB51				1	1	8	7	4	
Blrguima	SLB52				2		0			
Banza	SLB53				8	1	7	12	4	4
Hawata Gadid	SLB54				1		0		2	2
Hillat Hassan	SLB55				1		0			
Hillat Gadid	SLB56				1		0		2	2
Barnawi	SLB57				2	1	5	9	6	6
U'sham	SLB58				3	1	3	3	6	6
Abu U'sher Ghrib	SLB59				2		0		4	4
Wad El Hedy	SRB65				1		0	1	2	2
Tayboune	SRB66				2		0		4	4

NAME VILLAGE	CODE	NB PRE-SCHOOLS	NB PUPILS PRE-SCHOOLS	NB. OF CLASSROOMS PRESCHOOLS	NB KHALAWA	NB BASIC SCHOOLS/TOTAL	NB TEACHERS BASIC	NB. OF CLASSROOMS BASIC SCHOOLS	FUTURE ADDITIONAL CLASROOMS	ADDITIONAL TEACHERS BASIC SCHOOLS
Hillat Zakariya	SRB67				3		0	5	8	
Berdana	SRB68				1		0		2	2
Gaber El Maksour	SRB69				3		0	1	6	6
Guerma Guerma (Shaloguy)	SRB70				3	1	2	3	2	2
Banza Shirq	SRB71						0			
Dar Hilla	SRB72						0		2	2
Wad El Helew	SRB73	?	?	?	?	5	?	?	?	?
TOTAL		15	1 092	57	121	42	233	213	181	146

A1.7 Health units and services compensation and development

NAME VILLAGE	CODE	Present situation - Health units affected				Future health units planned			Additional medical staff		
		Nb. of health centres	Nb. of clinics (<i>shafakhana</i>)	Nb. of health support units (<i>nuqta dam</i>)	Nb. of basic health units (<i>wahda sahiya</i>)	Nb. of health centres	Rural clinic	Basic health unit	Doctor	Medical assistant	Nurse
Al Rumeila	ALB02			1				1			
AL Muneera Kobur	ALB04			1				1			
Soufi Al Bachir	ALB05		1				1				
Al Kreida	ALB11			1				1			
Al Bahkar Ghib	ALB12	1				1			1		
Shasola	ALB13			1				1			
Al Mentik	ALB14				1			1			
Um Dawanban Ghib	ALB16				1			1			
Hagueb Sidou	ALB17			1			1			1	
Heleiba Ghib	ALB19				1			1			
Wad Gaber	ALB20		1				1				
Hilat Kow	ALB22				1			1			
Hillat Ali Khalifa	ALB23				1		1			1	
Al Dihad	ALB25				1			1			
Kazourou	ARB31				1			1			
Katurgui	ARB33			1			1			1	
Hashaba Maala	ARB34			1				1			
Wad Nager	ARB35				1			1			
Al Amara Shirq	ARB39					1			1	1	1
Um Dawaban Shirq	ARB41				1			1			
Tuletha	ARB44		1				1				
Banat Shirq	ARB46			1				1			
Al Bagbaga	ARB48			1				1			
Mugrane Basalam	ARB51			1				1			
Banza	SLB53			1				1			

NAME VILLAGE	CODE	Present situation - Health units affected				Future health units planned			Additional medical staff		
		Nb. of health centres	Nb. of clinics (<i>shafakhana</i>)	Nb. of health support units (<i>nuqta dam</i>)	Nb. of basic health units (<i>wahda sahiya</i>)	Nb. of health centres	Rural clinic	Basic health unit	Doctor	Medical assistant	Nurse
Barnawi	SLB57	1				1					
U'sham	SLB58				1			1			
Maghareef Ghirb	SLB60							1			
Al Hashaba	SLB62		1				1			1	1
Guiraine	SRB63						1			1	1
Hilat Zakaiya	SRB67						1			1	1
Gaber El Maksour	SRB69							1			1
Wad El Helew	SRB73	1 hospital				?			?	?	?
Maghareef Shirq	SRB75							1			1
Guira	SRB76						1			1	1
Tabouassib	SRB77							1			1
TOTAL		2	4	11	10	3	10	22	2	8	8

A1.8 RAP Implementation Unit staffing and budgeting

Service	Number of staff					Cars			Yearly operating costs	RAPIU office hiring cost	
	Director/Head of service	Engineer/equivalent	Technician/accountant/enumerator	Secretaries/driver/skilled worker	Unskilled worker	4 wheel-drive vehicle	Common car	Computer and offices equipment (nb. of sets)			
RAPU Directorate	1			2	1	1	1	2			
Administration and Accounting Service	1	1	3	2			1	3			
Computers and data processing service	1		3	2			1	3			
Public information, consultation & census service	1	2	8	3	4	6	1	3			
Physical planning, housing and works service	1	2	2	1	2			4			
Compensation programme service	1		2	3		1	1	2			
Development programmes service	1	3	3	3	2	3	1	3			
Total	7	8	21	16	9	11	6	20			
Staff and operating costs per year	168 000	144 000	315 000	120 000	40 500				292 000	10 000	1 089 500
Investment costs						550 000	240 000	40 000			830 000

RAP budget pre estimate

U= US dollars

ITEM/COMPONENT	Investment cost	Yearly running costs
Private housing	45 684 484	
Administrative/Legna Chabiya Offices	462 000	
Mosques	1 320 000	
Shops compensation	225 000	
Land clearing for villages resettlement	353 651	
Land acquisition on traditional rainfed	557 070	
Karab rangeland compensation	3 554 255	
Irrigable land compensation	1 462 500	
Schools compensation & development	3 311 000	1 752 000
Health units compensation & development	545 000	241 700
Water supply development and sanitation	8 243 779	412 189
Electricity supply development	3 297 512	98 925
New secondary roads	10 400 000	312 000
Village feeder roads	12 000 000	360 000
Provision for 2 ferry terminals	500 000	10 000
<i>Income compensations & special allowances</i>		
General installation allowance	1 147 605	
Special allowance for landless Domestic Units	300 600	
Compensation for loss of commerce activity	147 000	
Compensation for loss of handicraft services income	28 000	
Compensation for loss of seasonal fishermen income	29 000	
RAP Implementation Unit	830 000	1 089 500
SUB-TOTAL	94 398 455	4 276 314
Provision for a first step regional development programmes (agriculture, livestock, fisheries, tourism, social)	28 204 997	
Provision for studies & engineering costs	2 993 437	
GRAND TOTAL	125 596 888	4 276 314

A2 – MEROWE RESETTLEMENT GUIDE

Guide Summary

The Damages compensations and Resettlement Guide includes all republican laws and decrees, and Executive Regulations of the resettlement and damages compensations process for those who are affected by the construction of Marwa Dam Project. The Guide considered the simplicity of style, excluding the legal complications, in order to enable the affected to be aware of all their rights and duties. It explains this mechanism according to the Laws and Executive Regulations drafted by the competent authorities. This guide resembles an attempt to build a data and information base that explains the mechanism applied in the damages compensations and resettlement process. This guide tends to strengthen the communication between the affected persons and the **Dam Implementation Unit**, and how to co-operate between both in executing this significant national project.

The Commissariat of Environmental and Social Affairs prepared this guide, and were published by the Barriers Implementation Unit, headed by the **Sudan Republic President**

This guide included five main chapters, after the introduction, as follows:

- Chapter One: Enumeration and Computation
- Chapter Two: Damages compensation.
- Chapter three: Damages compensation Procedures
- Chapter Four: Resettlement Procedures
- Chapter Five: Damages compensations Categories

Afterwards, there is the conclusion followed by the attachments, which illustrate details of the abovementioned chapters, Republican Decrees, and Government of Resolutions that regulate what has been mentioned in these chapters. There are 5 attachments that can be referred to their address especially Attachment No. "1" of this report which contain a list of all governmental decrees and instructions (23 nos)

- 1 Establishing Marwa Dam leads to affecting vast areas in the Northern State and Nile River, because of the formation of a lake behind the Dam, along an area of 176 km. Three inhabitant groups live in this vast area along the main watercourse of the Nile River, which are El Hamrab, Amri, and El Manasee. The population reaches 48,688 persons (forty eight thousand, six hundred and eighty eight), equivalent to 9,586 families distributed on the three areas. This is according to the agricultural and population statistics made by Marwa Dam Implementation Unit in 1999, which was formed by virtue of a Republican Decree issued in March, 1999, headed by the **Minister of State**, who is also the Executive Manager of the Project. Moreover, a **High Political Committee** was formed to supervise the project's implementation, including a number of ministers headed by the President of the Republic, which in turn formed a **Technical Committee** that issued Republican Decree No. 1/2003.
- 2 The Unit began since its formation to meet with the citizens of the affected areas, and a **Local Committee** representing each area was formed, to be included in a **High Committee** representing the three areas. These committees continue having communicative dialogues with the project management to reach solutions satisfying all parties of Damages. This took two years of continuous efforts. Moreover, a **Commissariat of Environmental and Social Affairs** was formed to undertake the file of the persons affected by the Dam in all aspects, starting from

supervising the determination of resettlement sites, building them, then resettling the citizens, and dividing the lands after computing the agricultures, and the possessions related to the lands in the areas which will be flooded, and paying damages compensations , and ending with supervising all other environmental aspects related to the Dam

- 3 After intensive efforts, an agreement has been reached in the competent technical committee, formed by the President and the President of the High Committee for Politics. Its recommendations were presented to the President who issued Republican Decree No. 3/2003 to amend Order No. 1/2003 regarding damages compensations categories of those Affected by the project. After beginning of handing over the damages compensations, the resettlement started with the citizens of El Hamdab area, as they are the first affected group, in El Moltaka City, south of the city. It is expected to continue resettling the other two groups, Imri in El Mokadem Valley Project, after two years. As for El Manaseer group, they will be resettled after three years in El Mokabarat Project, and other suggested areas around the Dam's Lake.
- 4 Since the unit cares for informing the citizens in the three areas with their rights and duties, this guide was made, which explains in a simple way all procedures and steps implemented, starting from enumeration and computation processes, damages compensations categories and the procedures to get paying thereof, then the resettlement steps and to make the citizen aware of all the documents including Executive Regulations, Laws, and Orders regulating damages compensations lawsuits. Moreover, the guide includes how to present requests that can be resolved by neutral people. The guide also indicates the representation of the interested parties before the **Commissioner** and the method of determining the term of claims, notice of damages compensations and the system of paying the same. It also includes the procedures of resettlement including the determination of sites, division of regions into plots, declaring the appropriation of the plots, the system of reconsidering the damages compensations and the procedures of paying such damages compensations. Finally, it contains the cash and in-kind damages compensations categories according to the recent amendments.

Chapter One - Statistics, Tally and Development

1- Statistics

Statistics conducted in 1999 is the reference statistics for three regions which are: (El Hamdab- Amri - El Manaser) provided that comprehensive statistics shall be conducted for each region separately before the beginning of displacement and such statistics shall be the reference according to the regulation's provisions.

2- Tally (Files and Statistics)

Pursuant to the provision of Article No.3 of damages compensations regulation of persons affected by Marwa Dam construction, a separate file is prepared for each member of the affected families and such file shall include the following data:-

- Comprehensive tally form for the affected family according to the orders issued and approved by the commissioner
- Identification papers copy for each member of the affected family.
- A copy of the specialized agency.
- Documents of the field survey conducted by Lands, Houses and Plantations Tally Committee formed according to the provisions of articles (21,9,7) of damages compensations regulation of persons affected by Marwa Dam construction of the year 2003.
- Any other Documents.

3- Affected Families and their Movables Tally Committee and its Powers

Pursuant to the provisions of Article No.5 of damages compensations regulation of persons affected by Marwa Dam construction of 2003, the commissioner shall form by virtue of an order issued thereby , a committee for tallying all the affected persons and their movables. Such committee is called Affected Families and their Movables Tally Committee. It includes a representative for the affected persons and a representative for the commissioner who will be its reporter.

4- Specializations of the Affected Families and Their Movables Tally Committee

- Comprehensive Tally according to the form prepared by the Commissioner of the following:
- Affected families
- Movables
- Approval of the form stipulated in paragraph (A) of Article No.6 of the regulation.

5- Lands, Houses and Plantations Tally Committees

Pursuant to the provisions of Article No.7 of the damages compensations regulation of persons affected by Marwa Dam construction of 2003, the commissioner shall form by virtue of an order issued thereby, a committee for tallying lands called (lands Tally) Committee.

6- Lands Tally Committee Specializations and Powers (Article No.8 of the Regulation)

- Tallying the property of each one of the affected persons whether it is private or governmental owned by reclamation.
- Conducting the reconciliations and registering the invested governmental lands which are not registered.
- Resolving any dispute relating to the integration of waterwheels into the governmental lands.
- Approval of lands tally form prepared by the commissioner.

7- Houses Tally Committee

Pursuant to provisions of Article No.9 of the damages compensations regulation of persons affected by Marwa Dam construction of 2003, the commissioner shall form by an order issued thereby, a committee for tallying and valuating the houses called Houses Tally Committee.

8- Houses Tally Committee Specializations and Powers (Article No.10 of the Regulation)

A) Conducting the actual measurement by square meter for each one of the following houses:-

- Uninhabited and deserted for six years.

B) Divided and uninhabited by any affected person.

C) Divided houses which are inhabited by affected persons and they include the following:

- Tallying the houses mentioned in paragraph (A) of the Article after measurement thereof.

- Tallying the rooms and facilities built for each house.

- Determining the type of the materials by which the house was built.

- Valuation and Estimation of the house.

- Approval of houses tally form prepared by the commissioner.

- Any other specializations entrusted to the committee by the commissioner.

9- Plantations Tally committee

Pursuant to the provisions of Article No.11 of the damages regulation of persons affected by Marwa Dam construction of 2003, the commissioner shall form by virtue of an order issued thereby, a committee for tallying the plantations called Plantations Tally Committee.

10- Plantations Tally Committee Specializations and Powers (Article No.12 of the Regulation)

A- Tallying the plantations including fruitful and unfruitful palm trees, male palm trees, fruits trees such as mango, guava, citrus and other trees according to the form prepared by the commissioner.

B- Classifying the fruit trees into two categories: fruitful and unfruitful.

C- Resolving any dispute arising regarding the overlapping and inherited plantations.

D- Approval of plantations tally form prepared by the commissioner for valuation.

11- Valuation of Uninhabited, Deserted, Uninhabited Divided and the Inhabited Houses

Pursuant to the provisions of Article No.12 of the damages compensations regulation of persons affected by Marwa Dam construction of 2003, the valuers shall value the uninhabited, deserted, uninhabited and subdivided houses in addition to the houses inhabited by affected persons pursuant to the provisions of Article No.10 of paragraph 3 after being tallied.

12- Valuation of Plantations

After tallying and classifying palm, mango, guava, citrus trees and other trees, valuers shall value the fruitful and unfruitful ones for fulfilling damages compensations purpose.

Chapter Two - Damages Compensations

1- Objective of Damages compensations:

Article No. (15) Of damages compensations regulations of persons affected by Marwa Dam construction of 2003 stipulates that the damages aim at fulfilling the following purposes:

- A- Making up for the affected persons' damage according to the categories determined by the high political committee of Marwa Dam Project by virtue of the procedures stipulated in Law.
- B- Encouraging the affected persons to complete the displacement and settlement procedures and enabling them to do so.

2- Damages compensations Types:

Article No. (16) Of the damages compensations regulation of persons affected by Marwa Dam construction stipulates that the damages compensations payable to the affected persons shall be financial or in-kind as the case may be and they can not be given together.

3- Financial Damages compensations:

Pursuant to Article No. (17) Of the damages compensations regulation of persons affected by Marwa Dam construction, the following shall be affected:

- A- The damages compensations officer shall pay to the affected persons the financial damages compensations according to the final statistics data.
- B- The damages compensations shall be calculated according to the determined categories.
- C- A card shall be issued to each affected person and it shall be considered a state official document for fulfilling damages compensations purposes.
- D- The financial damages compensations shall be paid by installments by virtue of banking bonds, each upon its due date after presenting the card.

4- In-kind Damages:

According to the provision of Article No.(18) of the damages compensations regulation of persons affected by Marwa Dam construction :

- A) The in-kind damages compensations shall be paid to the affected persons as mentioned in items (3,2,1).

5- Classifying the Houses:

The houses shall be classified in the resettlement region according to the following categories:

- A- Category (A)
- B- Category (B)
- C- Category (C)

The houses shall be distributed in the resettlement region upon the affected persons according to the categories mentioned in paragraph (2) by virtue of the statistical data of the houses in this region provided that the distribution preference shall be effected according to the following order:

- The value stated in the statistics form.
- The entire space of the house.
- The number of the affected persons in the same family.

6- Damages Compensations for Affected Persons whose Residence Ranges from Six Years to More:

Pursuant to Article No.(19) of the damages compensations regulation of persons affected by Marwa Dam construction of 2003, the affected persons mentioned above shall be given damages compensations as follows:

- A) As a special case according to the value determined by the commissioner if the concerned affected person resides for a period less than six years.
- B) Pursuant to the value of the house which was uninhabited or deserted for more than six years, provided that the concerned affected persons shall be granted a void plot of land and its space

shall be determined according to the house classification according to the provisions of Article No.(18) of the regulation provided that such classification shall be taken into consideration upon determining the house market value.

7- Damages Compensations for the Divided, Uninhabited and Inhabited Houses:

Pursuant to the provision of Article No.(20) of the damages compensations regulation of persons affected by Marwa Dam construction as regards the divided houses as follows:

A) In case of the uninhabited house as mentioned in the regulation, Article (10.A) (Second), the concerned affected person shall be granted the market value of the house in addition to a void plot of land and the space thereof shall be determined according to the plot classification in the affected region.

B) In case of the house inhabited by the affected person, he will be granted a house in the settlement site if its inhabitant is desirous of leaving there for. The buildings shall be evaluated (random estimation) according to their condition, materials used on basis of quotation certified by the Ministry of Public Planning for Northern State and Nile River state on basis of measuring buildings and taking into consideration the depreciation of the building provided that the house is built with the same specifications determined in the legislations enforceable for building houses.

8- Damages Compensations for Agricultural Lands:

Pursuant to the provisions of Article No.21 of the damages compensations regulation of persons affected by Marwa Dam construction of 2003, the agricultural lands shall be granted damages compensations therefore as follows:

A) Collection of the different possession titles of the affected persons should be taken into consideration upon granting damages compensations.

B) Lands at settlement regions shall be divided into yards and the space thereof shall be determined by feddan and waterwheels and the space thereof shall be determined according to the amount of damages compensations.

C) Taking into consideration the geographical site of the house, the waterwheels shall be determined and distributed at the settlement regions after completing the displacement procedures.

9- Damages Compensations for Plantations:

Pursuant to the provisions of Article No.5 damages compensations regulation of persons affected by Marwa Dam construction of 2003, the affected person shall be paid damages compensations for plantations after being tallied and classified according to the provisions of Article No.(12) (A,B) of the regulation with the due value.

Chapter Three - Damages Compensations Procedures

1-Inspecting, dividing, and qualifying lands:

According to the provisions of Clause No. (7) of the Law of re-settling and indemnifying those who were affected by the construction of Marwa Dam in 2003.

A. Notwithstanding any contradictory text in any other law, the commissioner shall inspect and record all the lands in the flooded area, and divide the existing portions.

- non-reclaimed lands whether registered or unregistered.
- Reclaimed lands whether registered or unregistered.

B. Drawing up a list including quantities, types, and all related information that help in determining the values of all the following items:

- Palm trees,
- Fruit trees,
- Other trees,
- Buildings,
- All other items permanently erected and related to the lands,
- Mining and quarrying rights,
- Any other rights or benefits.

C. All reclaimed lands shall be qualified in the same manner as stipulated by Articles (1 and 2) for divided lands.

D. It is not permissible to demand indemnity for any building or construction work erected after inspecting, dividing, and qualifying lands, unless proven by the demanding party that objective circumstances has called for the completion of such a building or construction work.

2-Claims:

A. Submitting Claims:

According to the text provided by Clause No. (8) of the Law of re-settling and indemnifying those who were affected by the construction of Marwa Dam in 2002.

- Indemnity Claims shall be submitted as set by the form annexed to this Law to the commissioner by the beneficiary, his legal agent, or his legitimately appointed trustee.
- It is permissible for a number of beneficiaries to submit all together one claim.

b. Resolving Claims of non-beneficiary parties:

According to the provisions of Clause No. (9) of the Law of re-settling and indemnifying those who were affected by the construction of Marwa Dam in 2002.

- If non-beneficiary party submits a claim for an entitlement to a land registered to another party, for gaining benefits from any trees, or for any other rights recorded in any official ownership register under another party's name, the commissioner shall request this party to resort to required legal channels to amend the register or the commissioner shall look into this claim himself and reach a conclusion after hearing all involved parties and examining the documents that will help him in reaching a conclusion.
- If a claim is submitted by a party for an entitlement to non-registered lands or buildings, the commissioner shall look into this claim and reach a conclusion as if he is a settling officer utilizing Provisions of land settlement and registering Law of 1925.

C. Representing beneficiary parties before the commissioner:

According to the provisions of Clause No. (10) of the Law of re-settling and indemnifying those who were affected by the construction of Marwa Dam in 2003:

- If the land is owned by common inheritors, it is permissible for the commissioner to appoint any adult from the inheritors to represent for law any requirement other inheritor who did not attend in person, through a trustee, or through a legitimately appointed agent.

D. Possibility to the commissioner to swear in and assume other jurisdictions:

According to the provisions of Clause No. (11) of the Law of re-settling and indemnifying the affected persons by the construction of Marwa Dam in 2002.

- It is permissible for the Commissioner, in order to reach a conclusion regarding claims, dividing lands, estimating damages compensations, or conducting any investigation relating to any of these, to presume swearing-in, issue a subpoena, or issue a summons or an order for the appearance of whoever his appearance is necessary or for the submission of necessary documents. Subpoenas, as much as possible, shall comply with legal procedures law of 1983.

The commissioner or any authorized person in that matter shall enter, inspect, scan, categorize, and define the borders of any area of the flooded land.

e. Setting a period for damages compensation claims:

Pursuant to the provisions of Article No. (11) of re-settlement and indemnifying the affected persons by the construction of Marwa Dam in 2002.

The Executive Manager may have the right to decide, by means of notification published in the official gazette and other media means, to specify a time period after which no new claims for damages compensations shall be made pursuant to the provisions of this law. However, such time period should not be more than 6 months from the date of publishing the said notification.

f- Declaring Damages Compensations:

Pursuant to the provisions of Article No. (13) of re-settlement and indemnifying the affected persons by the construction of Marwa Dam in 2002.

In case the damages compensations categories were specified pursuant to Article No. (5), paragraph No. (5) of the Law, the Commissioner shall declare in writing, or in any other form he may see, the value of the due damages compensations within a period of one month from the date of receiving the claim for the same.

g- The right for Requesting Reconsideration:

Article No. 41 of the Law stipulates:

Each person who suffers as a result of a decision or order, issued by the Commissioner or a decision or order issued for estimating damages compensations by means other than classification and setting categories, may submit an order to the resolution-issuing entity for reconsidering that decision within 3 months from the date of issuing such decision or order.

h- Payment of compensation:

The provisions of Article No. (15), of re-settlement and indemnifying the affected persons as a result of the construction of Marwa Dam in 2003, stipulate:

The Sudanese government shall pay the declared damages by virtue of Article No. 3 (b) of the Law or specified by virtue the provisions of Article No. 5 (e) of the Law, for the beneficiary person/s within a reasonable period of time specified or declared by the Executive Manager.

Chapter 4 - Resettlement Procedures

1- Defining Locations of Resettlement:

According to the provisions of Article (16) of Resettlement Law and regarding paying compensations to those who suffered damages from the construction of Marwa Dam in 2002:

- A- The commissioner shall define the locations in which those who suffered damages shall be resettled, and shall be responsible for building these locations.
- B- For the purpose of enforcing the terms of this Law, the commissioner shall define the technical and environmental aspects of the project, and inform the other competent authorities accordingly to take necessary procedures required for the improvement of the environment.

2 –Division and allocation of resettlement areas:

According to the provisions of Article (17) of Resettlement Law and regarding paying compensations to those who suffered damages from the construction of Marwa Dam in 2002:

- A. Resettlement area shall be divided into separate plots of lands according to its nature and construction in the manner estimated by the Committee upon the recommendation of the Executive Manager. The plots of land should be suitable for allocation to either individuals or groups in case the individuals are linked by family relationships or by common interests.
- B. The committee shall define the type of possession of the plots of lands before its allocation upon the recommendation of the Executive Manager.

3 – Declaration of allocated plots of lands:

According to the provisions of Article (18) of Resettlement Law and regarding paying compensations to those who suffered damages from the construction of Marwa Dam in 2002;

- A. The commissioner shall make declaration of the allocated plots of land in resettlement area. The declaration should include the type of possession and the method of allocation.
- B. The declaration laid down in clause (1) shall have the power of judgment issued according to the civil procedure Law of 1983. It shall be deemed final after three months of handing over the plot of land.

4 – Closing Terms:

According to the provisions of Article (19) of Resettlement Law and regarding paying compensations to those who suffered damages from the construction of Marwa Dam in 2002;

- A. In case the beneficiary of compensation does not agree on the compensation granted, the matter shall be referred to the arbitration committee, whose decision shall be final.
- B. The arbitration committee shall be formed under the chairmanship of a judge, and the membership of a representative of executive unit of the project, and another representing the beneficiary of compensation.
- C. The decision of the arbitration committee should be approved by the majority of committee. The decision should illustrate the compensation that should be paid, as well as the expenses of arbitration and the persons charged to pay them.
- D. Arbitration committee shall follow the same procedures prescribed in civil procedure Law of 1983 regarding the interrogation of claimants, cross-examination, and data registration as far as it is necessary for each a discrete decision.

5 – Regulations and Orders:

According to the provisions of Article (20) of Resettlement Law and paying compensations to those who suffered damages from the construction of Marwa Dam 2002:

The Executive Manager may issues the Regulations and Orders necessary for the execution of the terms of this Law after consultation with the Committee.

6 – Procedures of Compensation Payment:

According to the provisions of Article (25) of compensations regulation paid to those who suffered damages from the construction of Marwa Dam 2002, the following procedures should be followed in relation to compensation payment:

- A. Compensation form should be submitted with the attachment of a photocopy of compensation card.
- B. After preparing the compensation form, it shall be referred to the competent financial administration.
- C. The compensation card shall include all data regarding the merit of compensation.
- D. The commissioned authority shall perform internal review for all documents and to be approved by commissioner.
- E. The commissioner shall approve the necessary financial form.
- F. Payment order shall be prepared by the competent financial department.
- G. Cashier shall hand the bank checks and cash amounts to those who suffered harm.

Chapter 5 - Compensation Categories

According to the Decree (2) issued by the Vice-President, compensation categories paid to those who suffered harm is amended as follows:

1- First: Agricultural Lands:

- A. The compensation of a privately owned feddan shall be three privately owned feddan if the compensation is to be paid in kind, or 200,000 Dinars if the compensation is to be paid in cash.
- B. The compensation of a governmental reclaimed feddan shall be one and half governmental reclaimed feddan if the compensation is to be paid in kind or 74,000 Dinars if the compensation is to be paid in cash.

2 – Second: Residential Lands and Shops

A- Resettlement Areas:

- Al-Moltaka project established for Al-Hamdab Group.
- Al-Mokadam Valley project established for Amry Group.
- Al-Makabrab Valley project, and the areas around dam lake established for Al-Manasir Group.

B- Those who suffered harm shall have the right to chose from the aforementioned areas as they desire, provided that priority is given to the specified group in each project.

C- Type of ownership and land possession in resettlement area shall be determined as follows:

Dwellings and Shops:

Type of land possession in villages shall be determined on the base of residential plans in Al-Shamalia and River Nile states, while unrestricted ownerships of dwellings and shops, if any, shall have the same type as it were before evacuation.

- Straw Houses:

* Those who possess straw houses and do not have any other ordinary houses shall have the right to get cash compensation for the ruins of their straw houses. A plot of residential land shall be allocated for them in the new settlement to build on their own expense.

* Those who possess ordinary houses in addition to straw houses shall get compensation for the ruins of their straw houses. No plots of lands shall be given in compensation for these straw houses.

Compensation categories of Dwellings and Shops:

- **Dwelling houses and other types of buildings** in the harmed villages shall be determined as follows:

- Buildings shall be estimated according to their present state, according to the materials used in its construction, whose prices are approved by the Ministry of Urban Planning in Al-Shamalia and Nile River states, and according to dimensions of those buildings.
- **The category of shop** in the harmed villages:
- The shops shall be estimated in the same method as houses.
- Each shop owner shall be given a plot of land in resettlement area to construct on his own expense, as the case may require, provided that this owner is willing to emigrate in the new settlement.
- **The government shall provide services for settlement villages corresponding to the social change in resettlement area.**

3 – Date Palms and Fruit Trees:

According to the Amendment Decree (2) regarding paying compensations to those who suffered damages from the construction of Marwa Dam, the compensation for date palms and fruit trees shall be as follows:

A. Date Palms

- The compensation for each productive date palms shall be 50,000 Dinars (Only fifty hundred Dinars) to be paid in cash round (6) years.
- The compensation for unproductive date palm shall be 6,200 (only six thousands and two hundred Dinars).
- The compensation for male date palm shall be 3,060 (only three thousands and sixty Dinars).
- The compensation for palm seedling shall be 400 (only four hundred Dinars).

B. Mango Trees

- The compensation for mango tree shall be 90,371 (only ninety thousands, three hundred and seventy one Dinars).

C. Citrus:

- The compensation for Citrus tree shall be 55,326 (only fifty five thousands, three hundred and twenty six Dinars).

D. Guava:

- The compensation for Guava tree shall be 50,000 (only fifty thousands Dinars).

E. Fruit Trees

- The compensation for unproductive fruit trees shall be estimated by the commissioned authority.

F. Wood Trees:

- The compensation for wood trees shall be 1,200 Dinars (only one thousand and two hundred Dinars) for each cubic meter.

4- Compensation for lands and possessions that are not included in the above categories:

The committee formed by the commissioned authority for estimating trees and houses shall determine the compensation for lands and possessions when there is no special clause or provision for them.

5 – Management and Irrigation of Agricultural Projects, and Finance of Agricultural Operations:

- A. The government shall support resident families when they move to the new settlement with 50,000 Dinars (fifty thousand Dinars) for each family.
- B. Each family living in the area drowned by the lake water shall get six feddan in the areas of resettlement projects according to the provisions stipulated by the country regarding granting governmental utilities, and according to the social state of the resident families.
- C. Competent authorities in each state shall supervise the management of its corresponding projects.
- D. Farmers shall be exempted from paying water fees for two years. The government is committed to supply water for the agricultural Projects.

- E. The Government shall allocate an amount of money for a rotating fund of rural and agricultural operations.

6 – Method of Compensation Payment and Land Allocation:

- A. Cash compensations shall be paid in (six) instalments over (six) years. The first instalment shall be paid before the arrival to resettlement area.
- B. The first instalment of cash compensation paid to date palm owners shall include the total cash amount of (25) productive date palms.
- C. House owners who are not willing to move to the new settlement shall receive cash compensation before his group arrives at their new settlement area.
- D. Each house owner in the affected area shall be given a house in the new settlement area if he is willing to move to the new settlement.

Citizens whose lands shall be drowned behind the dam shall be exempted from paying the value difference between their current houses and their new houses in new settlement. These differences shall be deemed a free gift to support them in raising the standard of their living and the standard of their society.

7- Seventh: Use of Compensations and Grants, and Penalties:

Article 269 of compensations regulation paid to those who suffered damages from the construction of Marwa Dam in 2003 states that the use of compensation or grant is subject to a specific terms:

- Each one of those who suffered the damages should utilize the compensation paid for land monopolization, residential house or agricultural land for the specified purpose in no more than six months.
- Granted compensation (land monopolization, residential house or agricultural land) shall be expropriated by a decision from the commissioning authority if the beneficiary does not use it for the specified purpose after six months from the date of receiving this compensation.

Conclusion

Damages and Resettlement Guide, which is a guide for affected people, is the first publication of its kind in this field. It includes a concise formulation of all rights and obligations of affected people, which are secured by laws, constitutional decrees, regulations and orders regulating these rights and obligations, which are issued by Marwa Dam Project Implementation Unit that endeavoured to communicate all procedures and frameworks that must be followed in order to benefit from the privileges included in these laws.

We hope each affected person finds what he/ she is seeking for in this guide, in order to be familiar with all legal aspects pertaining to damages and resettlement issues.

Guide Attachments

- 1- The Law of Resettling and Compensating the People Affected By Constructing Marwa Dam, for the year 2002.
- 2- Decree No. 363/2001 of reforming the High Political Committee of Implementing Marwa Dam Project – Presidency.
- 3- Decree No. 78/2001 of Reappointing an Executive Manager for Marwa Dam Project – Presidency.
- 4- Regulation of Compensating the People Affected by Marwa Dam Construction, for the year 2003.
- 5- Resolution No. 45/2001 of forming a technical committee for displacing citizens of Hamdab and Amry, who are affected by Marwa Dam construction – Northern State.
- 6- Recommendations of the Technical Committee of displacing citizens of Hamdab and Amry who are affected by Marwa Dam construction – Northern State.
- 7- Order No. 7/2002 of determining damages compensations categories for people affected by Marwa Dam construction - High Political Committee of Marwa Dam Implementation – Presidency.
- 8- Order No. 19/2003 of forming the technical committee competent to determine damages compensations categories for the people affected by Marwa Dam construction, and determining competences thereof – High Political Committee of Marwa Dam Project – Presidency.
- 9- Recommendations of the technical committee competent to determine damages compensations categories for the people affected by Marwa Dam construction – High Political Committee of the Project – Presidency.
- 10- Order No. 2/2003 amending Order No. 1/2003 (damages compensations categories for people affected by Marwa Dam construction) – Presidency.
- 11- Presidential Decree No. 353/2002 of announcing the expropriation of lands for a public purpose - High Political Committee of Marwa Dam Project – Presidency.
- 12- Resolution No. 277/2003 – Announcing the expropriation and appropriation of lands for a public purpose - High Political Committee for Marwa Dam Project – Chairmanship – (Expropriation map is attached).
- 13- Ministerial Decree No. 51 – Ministry of Agriculture, Animal Resources and Irrigation – Northern State.
- 14- Forms of tallying: (1) planted seeds – (2) Arable lands – Commissionary of Social and Environmental Affairs - Marwa Dam Project Implementation Unit - Ministry of Irrigation and Water Resources in collaboration with the Central Bureau of Statistics and the Northern State Government – (3/A) Summary of family members (3/B) – Houses (4) movable assets (5).
- 15- Card of compensating the people affected by Marwa Dam Construction – commissioned authority of Environmental and Social Affairs – Marwa Dam Implementation Unit – Ministry of Irrigation and Water Resources.
- 16- Cash damages compensations application form – commissioned authority of Environmental and Social Affairs – Marwa Dam Implementation Unit – Ministry of Irrigation and Water Resources.
- 17- Payment order – General Administration for Administrative and Financial Affairs – Marwa Dam Implementation Unit – Ministry of Irrigation and Water Resources.
- 18- Order of forming basic committees.
- 19- Forming the High Political Committee for Supervising Hamdab Dam Project.
- 20- Presidential Decree No. 109/1999 of reforming the High Political Committee.
- 21- Presidential Decree No. 363/2001 of implementing Marwa Dam Project.
- 22- Presidential Decree No. 97/2005 of constructing Dams Implementation Unit.
- 23- Pictorial attachments.