NILE BASIN INITIATIVE - NBI
EASTERN NILE TECHNICAL REGIONAL OFFICE
(ENTRO)

BARO-AKOBO-SOBAT (BAS) MULTIPURPOSE WATER RESOURCE DEVELOPMENT STUDY PROJECT

Report on the Planning Workshop, September 7 – 9th ENTRO, Addis Ababa - Ethiopia.

LIST OF ACRONYMS

ADLI	Agricultural Development Led Industrialisation
AfDB	African Development Bank
AWF	African Water Facility
BA	Baro Akobo
BAS	Baro-Akobo-Sobat
CBO	Community Based Organizations
CPA	Comprehensive Peace Agreement
CRA	Cooperate Regional Assessment
DRC	Democratic Republic of Congo
ENCOM	Eastern Nile Council of Ministers
ENSAPT	Eastern Nile Subsidiary Action Program Team
ENTRO	Eastern Nile Technical Regional Office
ENWSM	Eastern Nile Watershed Management
ET	Evapotranspiration
FAO	Food and Agriculture Organization
GIS	Geographical Information System
IDEN	Integrated Development of Eastern Nile
IDPs	Internally Displaced Persons
IWRM	Integrated Water Resources Management
JAM	Joint Appraisal Mission
MP	Multipurpose Project
NEPAD	New Partnership for African Development
NBI	Nile Basin Initiative
NBTF	Nile Basin Trust Funds
NGOs	Non Governmental Organizations
RS	Remote Sensing
SSEA	Strategic Social and Environmental Assessment
TC	Telecommunication

1. INTRODUCTION

The Planning Workshop for the Baro-Akobo-Sobat Multi-purpose Water Resources Development Study Project was held from September 7 – 9th, 2009 at ENTRO / Dimitri Hotel, Addis Ababa, Ethiopia. This was the first planning workshop held to reach a consensus on the guiding principles of the project and proposed project study approach.

The Workshop was attended by representatives of the Donor Community (World Bank, French Technical Assistance, Netherlands Embassy); ENSAPT Leaders and Members; National Focal Points; National Project Coordinators; Country representatives from Egypt, Ethiopia and Sudan and ENTRO technical staff and resource persons (full list of participants in Annex 1).

2. OBJECTIVES OF THE WORKSHOP

The specific objectives of the Workshop were to reach a consensus on:

- The Project Goal, Objectives and expected Outcomes
- The Project Components
- The Project study approach, and
- Priorities for implementation

In the opening session of the workshop Mr. Jackson Muso the Regional Project Coordinator, welcomes the Participants to the Planning Workshop in a brief speech he outlined the purpose and objectives of the workshop.

Dr. Ahmed Khalid, the Executive Director of ENTRO welcomed the Participants and briefly outlined the strategic approach and the ENSAPT/ENTRO structure.

Ato Teferra Beyene (ENSAPT Chair) then officially welcomed the Participants and expressed his hope that the workshop will be a success and the design of the project would be improved as a result of the deliberations of the workshop.

Dr. Sherif Elsayed outlined to objectives of the Integrated Development of the Eastern Nile (IDEN) programme, of which the Baro-Akobo-Sobat Multi-purpose Water Resources Development Study Project was a component. He briefly explained that the reasons for the delay in the implementation of BAS project had been several: finance, communication with AfDB, instability in sub-basin areas among others. However, there is conducive environment now and some aspects of the project could be implemented to give bases for ENTRO presence on the ground, this planning workshop therefore is relevant. This sub-basin is complex and sensitive but also with vast water resource potential which requires balancing environment and development. Development in this sub-basin requires holistic, integrated, regional-basin development approach rather than a river basin development approach.

3. SESSION 2, started by presentations on same knowledge on the sub-basin

3.1 Presentation on Water Resources of the Sub-Basin (Dr. Yasir Mohammed)

Summary of Paper

The hydrology of the basin is complex; meandering rivers, interaction with wetlands and there is difficult in accessibility.

- Limited information, constrain to good understanding of the basin hydrology: few data, difficult access and sampling year round.
- Seasonal wetlands of substantial size exist. Though different results on evaporation losses were recorded, and hence on potential gain, (for example Machar between 1 to 8 BM^3/yr).
- Preliminary results from water accounting shows major part of water is consumed, mainly by natural land cover / vegetation, therefore this is not necessarily non-beneficial.
- Important water uses include: forestry, livestock, fisheries, navigation & limited irrigation (receding) settlement type.
- The basin offers huge potential for development, however better understanding is needed before decent planning can be made.
- Use of technologies such as GIS or RS provide a good potential to fill in information gaps in the sub-basin, but require ground truthing.

Summary of Discussions on water resources paper

- **Planning model**: Need to develop planning models to understand water savings potential, to generate options for development
- **Wetland definition and delineation**: Suggested to adopt Ramsar Definition.
- **Recession agriculture**: Consider in the development of BAS sub-basin.
- **Meandering and change of river course**: consider river training to enhance suitability for navigation and to minimize damage caused to infrastructure.
- **Dry season wildlife migration to BAS sub-basin**: factor this in the study.
- **Seasonal wetlands as grazing/livelihood sources**: factor this in the study.
- **Data validation and reliability**: validate available data to come out with the most accurate, consistent and reliable figures to be inputted for planning.
- **Open/closed system**: BAS should be viewed as an open system (both hydro logically and socio-economically) in the calculation of water balance/accounting.
- **Beneficial/non-beneficial water use**: define more precisely (so that there is no ambiguity about water saving from Machar Marshes). How do we assign values?

3.2 Presentation on Natural Resources and Environment of the sub-Basin (Peter Sutcliffe)

Summary of Paper

- The need to obtain detailed knowledge to link up the complexity of hydrology and ecology systems in the whole of the Baro-Akobo-Sobat sub-basin.
- This will mean establishing an effective and consistent hydrological and climatic monitoring network in the sib-basin.
- The need to obtain detailed knowledge on the relationships between the hydrology-ecology and livelihood systems and their dynamics, to attain basis for effective and sustainable water resources development planning and implementation.
- Already by the early 1980's socio-economic conditions in the lowland areas of the sub-basin were changing rapidly from those studied in the 1950's and 60's (Howell et al., 1988). Twenty years of civil war will have caused further changes.
- The need to determine the potential impacts of upstream hydrological developments (such as dams, hydro-power, irrigation development) on the sensitive hydrological-ecological and livelihood system downstream in both Ethiopia and Sudan.
- The need to make a full inventory and status assessment of wetlands ecosystem, the habitat and species bio-diversity as basis for effective and sustainable conservation planning.
- The need to determine the potential impacts on the hydrology, ecology and livelihoods of the continued development of the oil sector in the sub-basin and develop an effective monitoring system.

Summary of Discussions

- **Environmental encroachment**: Threat factor include the on-going oil exploration, mechanized farming and commercial falling of forest are among environmental threat in the BAS sub-basin.
- **Viability of by-pass canal**: as a water conservation option, questioned the sustainability of the sub-basin ecosystem (hydrology-ecology and livelihoods) this might accelerate climate change in sub-basin; the natural river channels were recommended to be opened up to increase the river flow and access to navigation and hydrological measurements
- **WSM CRA identified BAS projects**: were suggested to precede onto preparation and implementation among the fast track projects to demonstrate ENTRO / NBI presence on the ground.
- **Public/Regional Goods**: Certain BAS projects activities / components such as forest and wetlands conservation could be eligible for carbon trade credits and need to be considered.
- **Inventorize ongoing activities**: in the sub-basin the BAS study could build on some good practices hand in globe with on going NGOs activities on the ground.
- **Drivers of environmental / land degradation**: Deepening poverty levels is threatening livelihoods in sub-basin, therefore should be

considered as main drivers to the water resources development of this sub-basin.

- **Delineation and naming:** consider renaming the sub-basin to include the White Nile to indicate hydrologic and environmental connection, the name was to remain as BAS but extend of the project will otherwise only be limited with finances.

3.3 Socio-economic and Institutional Setup of the Sub-Basin (Dr. Abeje Berhanu)

Summary of Paper

The socio-economic and institutional assessment of the sub-basin could be more complete if local-level data were available on the following:

- Type and nature of basin-based livelihood activities
- Local perceptions and myth regarding the sub-basin
- History of group conflict resulting from use of the basin resources
- Cultural and ritual significance of the sub-basin
- Local power structure
- Natural and water resources use regimes
- Droughts and floods mitigation measures
- Importance of the sub-basin in health and hygiene
- Opportunities for income generation for residents

Summary of Discussions

- **Data quality**: on the Sudanese side of the sub-basin / extends up to Khartoum data might have risk of distortion; therefore this might lead into wrong conceptualization of the socio-economic of sub-basin.
- **Making data up to date**: the current data presented is old, needs updating including census data, national institutions needed focus.
- **Social Mapping of ethnic groups**: need to show how ethnic groups relate to each other through or in water use, including formal and informal water resource utilization and interaction of communities.
- **Pre-identification of major social risks and impacts**: to work out mitigation strategies (e.g. resettlement, human and livestock health risks resulting from drought and floods).
- **Conflict management**: the relationship between customary laws and statutory/formal mechanisms in the management of natural resources based and ethnic conflicts need to be studies further and re-build where necessary.
- **Infrastructure Challenges**: lack of physical infrastructure in cross-border linkage (roads, power, telecommunication, etc.) as drawback to transboundary cooperation needs to be highlighted to promote socio-economic development in the region.
- **Social infrastructure**: lack of access to potable water, sanitation, health and education facilities to mention few needed to be addressed to facilitate broader development interventions.

- **Strategic social issues**: need to identify ex-ante for social structures development would impact BAS interventions.
- **Role of NBI**: in addressing grassroots problems and challenges is crucial in this sub-basin and needed to identify.

4.0 Presentations on National Development Strategies of the Sub-Basin

(a) Ethiopia (Kifle Alemayehu)

Summary of Presentation:

- Sever soil erosion in highland areas; sedimentation & progressive environmental and land degradation in the lowland areas are among the developmental challenges in Ethiopian side of the sub-basin.
- Seasonal flooding and erratic rainfall in the low lands are affecting agricultural production leading into food insecurity.
- The current food production methods are not longer coping with the population growth rates → food deficit in the low lands and related areas of the country.
- Limited energy sources, limiting income generating activities.
- Poor transportation network including feeder roads and navigation.
- Sensitive and vulnerable wetlands; wetlands are breeding ground for fish, invertebrates, amphibians and other birds.
- In the Gambella plain (Baro, Alwero and Gillo - rivers) have potential for fisheries development.
- Baro River and Gambella National Park are important habitats for migratory and resident birds; the area is home to 41 endemic mammals and some crop plants (e.g. *Wild rice, Echinochloa spp.* (EWNHS, 1996).
- Wetland provide critical ecosystem functions: including Flood alleviation, erosion control, stream flow regulation, water storage, ground water recharge, retention of pollutants, water purification, nutrient cycling, exchange of surface and ground water.
- Potential for eco-tourism; aesthetic beauty and cultural heritage attract tourist as habitat is attractive for recreation birds and other wildlife, education and archaeological centres could be established.

Comments:

- **The Baro Master Plan**: needed to be updated as some of the data were estimated (not measured) at different time points, and work was conducted by different consultants using different approaches and data collection methods, too are the socio-economic development in the Ethiopian side of the sub-basin.
- **Post Master Plan changes in Baro-Akobo**: More physical infrastructure has been put in place (e.g. roads). The status of natural resources base has undergone changes since then (since 1996/7). Climate Change effects are more noticeable now (e.g. erotic rainfall, crop failure, decrease in river flow volume e.t.c) made it vital to revisit

the Baro Master Plan, although it adopted multipurpose development approach.

- **Agricultural Development Led Industrialisation (ADLI) as a Master Plan strategy**: How appropriate is the ADLI for this sub-basin in the preparation of the Master Plan or further development studies.
- **General Circulation Models (GCM) Models**: the models show variation on Climate Change impact on BA, need to work with the modellers to get BA included in their clustering activities.
- **Phased Development**: Suggested BA MP Approach of phased development (start simple and grow into complexity) be adopted in the Basin development studies.
- **Hydrometric Stations**: rehabilitate existing once, and install additional stations to generate sufficient data to support effective planning
- **Trans-boundary Eco-tourism development**: seek ways to enhance Transboundary eco-tourism development, including transboundary wildlife migration routes.

(b) Sudan (Isaac Liabwel)

Summary of Presentation:

- **JAM (Joint Appraisal Mission**): of the CPA guides development planning both in South and North Sudan → provides basis for any future planning in Southern Sudan.
- **Agricultural Revitalization Program**: This is an ongoing program, and BAS could be supported from or linked to this.
- **Institutional Capacity and physical infrastructure**: is a strong challenge for development in South Sudan, future BAS should take this into account either in terms of addressing it or mitigating it.
- **Reintegration of Returnees**: the social dimension of integrating war displaced (IDPs) should be factored in BAS study and development plan.
- **Hydrometric station**: Need for establishing new stations in South Sudan (including Pibor, confluence of Akobo-Pibor, Baro-Sobat and Sobat).
- **Climate Change**: Impact is challenging and should be factored in any planning and studies.
- **Oil Exploration**: poses environmental challenge to the basin development.
- **Livelihood strategies**: any project needs to augment a wide range of existing livelihood strategies → integrated basin development strategy; productivity enhancement (human, livestock, fisheries, forestry, water resource productivity).
- **Up-scaling**: consider up-scaling ENWSM proposed projects (e.g. Lau)
- **Transboundary coordination**: in the management of wildlife conservation, peace parks could be established jointly between Ethiopia and Sudan.
- **Information and knowledge gap**: on the Sudanese side of the BAS knowledge development is needed to be filled the information gaps.

Comments:

- With respect to wildlife migration South Sudan has cooperative agreements with Kenya, Uganda, and DRC. There are plans to have trans-boundary cooperation with Ethiopia over the Gambella and Boma National Parks.
- Climate change: needed to consider, already rivers are drying up in Kenya, which has closer geological linkages with the BAS sub-basin.
- Need to consider in the Study the existing diversified livelihood strategies to reduce poverty, also lack of cash (credit facilities) and markets.

5. THE WAY FORWARD

5.1 Approach paper on BAS Multipurpose Water Resources Development Study (Mr. Jackson Muso)

Summary of Paper

- Outline of reasons for BAS Study as IDEN component.
- Brief explanation of resources of the sub-basin; the complexity of the hydrology, ecology, livelihood systems and wildlife patterns.
- **Development Challenges**: weak institutional capacity; poverty and resource degradation; instability; seasonal drought; lack of social and physical infrastructure; lack of road access; and flooding.
- **Development opportunities**: forestry and agro-forestry in the highlands; hydro-power generation; flood control; improved river navigation; improved crop and livestock production and marketing; fisheries, eco-tourism and Trans-boundary Parks.
- **Project Goals**: Long-term and Immediate objectives were outlined. Need for filling data/information gaps a pre-requisite; Integrated Water Resource Development Approach is the guiding principle.
- **Expected outcomes:** improved water resource management; enhanced environmental protection; improved accessibility, social infrastructure and livelihood development; increased energy production, flood control and capacity building.
- **Suggested components:** Multi-purpose water resource development and management; socio-economic development; effective environmental and natural resources management; river navigation; regional economic development and cooperation.
- **Approach to Study**: 4 logically linked Stages: (i) Needs and Priorities Assessment through extensive stakeholder consultation and identification of relevant data and information gaps, (ii) Pre-preparatory Stage: developing potential development opportunities, Strategic Social and Environmental Assessment (SSEA) and selection of projects for further elaboration; (iii) Fast Track project preparation Stage: project preparation and consensus of long-term projects; (iv) Detailed preparation of long-term projects .

- **Financing**: (i) AfDB – NEPAD for US$ 465,000 for Stage 1 – Needs Assessment, (ii) AfDB – AWF for US$ 4.47 million for Stages 2 to 4. (iii) French Technical Assistance: Euro 108,000 for development of knowledge system for the BAS sub-basin.

Comments:

- **Project Name**: BAS was adopted, on the basis of the original concept on the extent and scope as adopted by ENCOM.
- **SSEA**: should be part of any study to assess downstream and upstream impacts.
- **Scale**: To effect transboundary cooperation, study should propose Water resource projects that confer benefits to all three countries.
- **Project Proposal**: should include time categories for studying

5. CONCLUSION OF WORKSHOP

5.1 Group (I) Presentations on Means and Methods for up-dating data and information

Summary of Findings

- Specify the category needed :
  - (i) socio-economics data
  - (ii) water resources,
  - (iii) land resources data
  - (iv) environmental resources data
- How to specify data for: Fast track , medium, long term projects
- Acknowledge challenges of data collection (accessibility, limited capacity, etc.)
- Essential: to review what is available first.

1. Socio-economic Data Type	**Means & Methods**
• Population: size, density, distribution, gender • Ethnics, tribal system • Livelihood profile / poverty indicators: malnutrition, housing, health, education, drinking water, sanitation, market access • Economical activities (formal, informal) • Seasonal migration pattern • Indigenous knowledge and practices • Power: (Governance), tribal leaders, hierarchy • Productivity (fishery, agriculture, etc.) • Norms and believes (cultures, tradition) • Actors: Government, NGO, CBO, • Communication (roads, rivers, airports, TC)	• Earlier studies (e.g., Baro1, Baro2, Master plan, Gambella land use planning (MoA, Ethiopia); watershed, SDBS,.. • National census data • Sample surveys, Interviews, case studies, • Arial photos and satellite images (land use) • Public literature: publications (Wendy James, UNIMES,…)

2. Water Resources Data Type	Means & Methods
• Hydrological data (water level, discharges, …) • Meteorological data (rainfall, evaporation, ET, Temp, Radiation, etc.) • Water use pattern (consumptive, non-consumptive) • Water quality (sediment, pollution, etc.) • Water demand pattern	• Collection of all available historical data (national ministries, global data sources, technical reports, etc.) • Establishment Hydrological and meteorological measurements stations at identified areas (by countries with support from ENTRO) • Arial photos, satellite images, (rainfall, ET, soil moisture)

3. Land Resources & environment Data Type	Means & Methods
• Topography • Soil characteristics • Land use & land cover • Flood plain characteristics • Wetland, catchment areas characteristics (extend, fluctuation on water level, role, ...) • Land tenure system	• Project reports & Earlier studies • Global data sources (FAO,..) • Remote sensing data + ground truthing

- **Establish the baseline:** ENTRO / BAS, to look for all available resources of data (in the region and world wide, NBI projects, DSS – remote sensing, ENTEAP, studies by national ministries)
- **Identify gaps:** Gaps that can be filled with new technology (e.g., RS) & primary data collection (related to identifies projects)
- **ENTRO:** Bring in regional dimension, and data sharing. Support initial investments (e.g., instrumentation, capacity building, and logistics e.t.c).
- **Countries:** Take part in providing all data required data; provide enabling environment for data acquisition and human resources.

Summary of Discussions on Group (I)

- Need for including groundwater movements study;
- Meteorological stations should be located in wetlands;
- Questioned how far ENTRO can provide funds and equipment for a hydrology and meteorology network. Need to look at other NBI projects and how they can support this activity.
- Recognize information available at local level (Ethiopia).
- ENTRO could develop Concept paper for a Regional Hydrology and Meteorology network.

5.2 Group (II) Presentations on Suggested approach to the Project Study with reference to proposals submitted to AfDB and the draft 2003 TOR

Summary of Findings

Goals:

- Overall project goal have to capture all opportunities in the basin and should be broad in nature.

- Agreed: to keep Project Goal same as stated in Section 6.1(a) of the Concept paper/proposal: "*To promote Socioeconomic development and cooperation in the region in an environmentally sustainable manner"*

Objectives:

- Recommend to Break down project objectives into:
  - Long Term Objectives
  - Immediate Objectives

Immediate Project Objectives:

- Establishment of knowledge based data and information system
- Development of nature resources base / poverty reduction
- Improved navigation
- Improved resource productivity

Long term objectives:

- Enhancement of regional food and energy security
- Irrigation and hydropower development
- Flood management and water resources conservation

Expected Outcomes:

- Add Enhanced knowledge based system as expected outcome
- Include Improved Regional Cooperation as expected outcome
- Break down Paragraph (f) of expected outcome and add "Improved natural resources" as stand-alone outcome

Project Components:

- Clearly identify the Strategic Social and Environmental Assessment (SSEA) as major component of the project.
- Clearly mention Eco-Tourism as part of the socio-economic development in Bullet 3 of the suggested project components.
- Under Natural Resources (Bullet 4), Watershed management should be emphasized.
- Under Bullet (4) add socially acceptable and sustainable manner.

Project Study and Prioritization:

- In general the overall proposed project approach is acceptable.
- Establish / define time schedule or time horizon for each of the project stages or phases ➔Suggested 6 month time span for stage 1 (Need Assessment)
- There is a possibility of overlapping the activities of stage 2 & 3, if funds are received as total grant not activities based.
- Identify the Navigation component as a fast track project activity

Summary of Discussions

- Need time frame for all 4 stages
- Cost-benefit analysis should be part of the study at relevant stage(s). Cost-benefit analysis should be about benefit sharing.
- Agreed that name should Baro-Akobo-Sobat
- ENTRO develop social and communication strategy for BAS
- Noted that this was first workshop: More clarity may come with additional workshops. This beginning will provide ENTRO with the necessary guidance.

5.3 Presentation on Consolidates Outcomes Report (Dr Wubalem Fekade)

Summary of crosscutting themes (issues, concerns, points of emphasis) emerging from the deliberations:

1. **General**:
    a. **Naming**: BAS adopted, from the basis of the original concept on the extent and scope as adopted by ENCOM.
    b. **SSEA**: should be part of any study to assess downstream and upstream impacts of various options and investment scenarios.
    c. **Scale**: To effect transboundary cooperation, study should propose water resource projects that confer benefits to all three countries, ranging from Fast Track to complex multipurpose projects.
2. **Complexity of BAS**: The sub-basin is complex in terms of:
    a. Ecological sensitivity: The wetlands, forest and wildlife habitats are extremely sensitive to massive interventions, such as oil prospecting, mechanized faming, commercial falling (logging) and construction of large-scale water resource infrastructure, planning should factor these.
    b. Hydrology: Since the hydrology of the basin is not fully understood, but its sensitivity appreciated, development planning should reconcile these two.
    c. Livelihood-environment interaction: the area is home to endemic and migratory bird and wildlife species, development of national parks on both sides of the border need to be considered. The area at the same time provides livelihood for agro-pastoralists and agriculturalists. Planning should be sensitive to avoid conflict in resource uses.
    d. Ethnic diversity, inter-ethnic relationships: the area has been adversely affected by resource-based, culture-based, politics-based conflicts. Any intervention should at a minimum not aggravate damages. Development projects should play the role of bridging cleavages that have been created.

To conclude: any future study of the basin needs to raise and answer pertinent questions on the above four key variables, in the absence of

which the contribution of development projects could turn out at best questionable, or even outright adverse.

3. **Data, information as key constraints**: to understand the hydrology, ecology, environment and socio-economic systems. This constraint is all the more felt on the Sudanese side. Indicative approaches (Group 1- Means and Methods for upgrading information). However, fast-track projects can start within existing data constraints.
    a. Socio-economic data (and cultural) data type and means and methods of collection (as presented in group above)
    b. Water Resources data (as presented) – data type and means and methods of collection (as presented)
    c. Land resource data (topography, soil characteristics, land use and cover, flood plain, wetland characteristics and land tenure system), source as presented.
    d. Environmental data (fauna and flora, forestry, national parks, wetlands and biodiversity, wildlife migration, impact from petroleum development, land degradation, soil erosion), means and methods as presented.
    e. Group 1: Approach: establish base line from available data; identify gaps and how that can be filled (primary data collection, RS, etc. or as related to project need); Role: ENTRO: data sharing and regional dimension – initial investments in instrumentation, capacity building, and logistics; e.g., concept notes and proposals. Countries: data provision, enabling environment and Human Resource.
    f. Group 2: Approach: Project goals, objectives, expected outcomes, components, approach to study and prioritization. Goal: as presented; Objective: break down into long term and immediate objectives (as presented); Outcomes (as presented)

4. **Weak Institutional capacity**: The local administrative, managerial and coordination capacities are limited to provide support to future BAS projects, therefore capacity building becomes paramount. However, the incipient nature of the local government formation following decentralization on the Ethiopian side and the formation of the GoSS could facilitate capacity building at project locations.

5. **Need for filtering/selection criteria**: Any future study will need to come out with a methodology, a framework, and an approach, as needed, to provide procedures for identifying, proposing and prioritizing water resource development projects against a matrix of constraints (as indicated above in 1). This pertains to projects that require transboundary cooperation, which could be:
    a. those that will be regionally identified/facilitated and nationally implemented.
    b. those that will be regionally identified/facilitated and regionally implemented.

6. **Poverty-environmental degradation link**: Severely degraded land and catchment areas critical for the sustainability of the ecosystem of BAS need to be identified, and fast tracked interventions.

7. **Climate Change**: How Climate Change will affect the basin is not definitive. But there is a general concern that it will be adversely impacted. The development of the basin should contribute to adaptation and mitigation of any Climate Change related adverse impacts.

8. **IWRM**: Maximum sustainable yield from the basin is possible if a holistic or integrated approach is adopted to synergize and get the best out of multiple sectoral projects.

9. **Ethnic Relations, Natural Resource-Environment-politically-driven conflicts**: the study should propose a process for confidence building and conflict resolution-transformation, as part of the SSEA or a stand-alone study to ensure social sustainability of any future Water Resource Development projects in the area.

5.4 Summary remarks on Workshop Outcomes

KEY MESSAGES

In compliance with ENCOM/ENSAPT instructions, ENTRO organized a planning workshop for the Baro-Akobo-Sobat Multipurpose Water Resources Study Project. The participants included ENSAPT, National Focal Points, BAS National Project Coordinators, technical representatives from the three EN countries as well as representatives from BAS basin regions in Sudan and Ethiopia. The three-day workshop comprised presentations by consultants, inputs from countries, submissions by ENTRO, groups' discussions and plenary sessions.

Following deliberations, the workshop participants expressed their appreciation of the support by the Development Partners (Netherlands, French and NBTF/World Bank) and agreed to the following resolutions and recommendations:

- The participants to this workshop shall constitute the regional working group on Baro-Akobo-Sobat Multipurpose Water Resource Development Study Project.
- The project goal, objectives, components and expected outcomes/impacts are adopted as refined by the working groups.

The Participants requested ENTRO to:

- Prepare a comprehensive stakeholder involvement and public consultations and communications strategy and plan for the project.

- Continue development of knowledge base of the BAS sub basin.
- Continue to develop the project through a phased approach including identification of some fast track projects to demonstrate early benefits and create an enabling environment in project locations.
- Carry out Strategic Social and Environmental Assessment (SSEA) in line with good practice in project preparation.
- Undertake the requisite resource mobilization to implement these tasks

The BAS Planning Workshop was officially closed by Ato Teferra Beyene (ENSAPT Chair).

ANNEX 1.

LIST OF PARTICIPANTS

Eastern Nile Technical Regional Office

Baro-Akobo Sobat Multipurpose Project Planning Workshop

September 7 - 9, 2009 - Addis Ababa, Ethiopia

List of Participants

S/N:	Name	Position	Organization	Contact Address		
				Telephone	Fax	E-mail
				Office		
EGYPT						
1	Eng. Aref Gharib	ENSAPT Member	Nile Water Sector	+20222611137 /97	+20224025966	a.gharib@nws.gov.eg
2	Dr. Mamdouh Mohamed Hasan	Director, the National Office of Egypt	Nile Water Sector	+202 2 261 1197	+202 2 402 5966	mamdouhh@hotmail.com
3	Eng. Loay Osama Sief	National Project Coordinator, BASMPP	Nile Water Sector	+202 2611197	+20224025966	loay@nws.gov.eg
4	Dr. Hesham Bekheit	Lecturer	Cairo University	+201 2 1650339		heshambm@hotmail.com
5	Dr. El-Saeed Saber ELmasry	Prof. of Sociology & Head of Social Program Issues	Cairo University	+202 7929292	+202 79929222	sdelmasrg@yahoo.com

ETHIOPIA						
6	Ato Teferra Beyene	ENSAPT Leader	Ministry of Water Resource	+251 (11) 6626318	+251(11)6639916	tbeyene@nilebasin.org
7	Ato Teferra Assefa	ENSAPT Member	Ministry of Water Resource	+251 116611111		tefera_asefa@yahoo.com
8	Fekahmed Negash Nuru	Department Head	Ministry of Water Resource	+251 116626885	+251 (11) 6637038	fnegash@nilebasin.org
9	Ato Didamo Adar Okach	Water Head	Gambella Regional Water Mines & Energy	+25147 551 0091		-
10	Ato Samuel Hussen	Irrigation & Land Drainage Process Owner	OWRB	+251 911118481		samiogeto@yaho.com
11	Ato Kifle Alemayehu	National Project Coordinator, BAS MPP	Ministry of Water Resource	+251 11 6 63 70 53	-	kifletuffa@yahoo.com
12	Ato Nega Abraha	EIA Team Leader/Env. Eng.	MOWR	+2519 11175180		nabrha@yahoo.com
13	Ato Tewodros Teferra	Socio-Economist	MoWR	+251 116626318		tewefera@yahoo.com
SUDAN						
13	Dr. Salaheldien Yousif	ENSAPT Member	MOIWR	+249 (183) 783221	+249 (183) 773838	slhyousif@yahoo.com
14	Eng. Ibrahim Salih Adam	National Focal Person, Sudan	MOIWR	+249 (1) 83785045	+249 (1) 83783221	ibradam75@yahoo.co.uk
15	Dr. Khalil Abdalla El Medani	Prof. of Socio-economics	Nilain University	+249 83778811	+24983775930	khalilmedani@gmail.com
16	Eng. Isaac Liabwel	Undersecretary - GOSS	MWR&I -Gov't of South Sudan	+249 811 823557		isaac.liabwel@gmail.com
17	Mr. Samuel John Awok	Director of Planning and Training	Ministry of Agriculture Env. And Rural Development – UNS - Malakal	+249 911314064/ 0121298064		samuelawok@yahoo.com
18	Mr. Paul Ladu Demitry	A/Inspector for Natural Heritage MPI&E	Director of Environmental Affairs -GOSS	+249 122553682		ladolodemen@yahoo.com

19	Mr. James Ochang	Director General, Ministry of Agriculture	Ministry of Agriculture Jonglei State - Bor	+249128689306		jojoch@comcast.net
ENTRO						
20	Dr. Ahmed Khalid Eldaw	Executive Direct	ENTRO	+251 11 646 1130	+251 11 645 9407	akhalid@nilebasin.org
21	Dr. Sherif M. Elsayed	Senior Regional Proj. Coordinator	ENTRO	+251 11 646 1130	+251 11 645 9407	Selsayed@nilebasin.org
22	Dr. Salah Shazali	Senior Operations Officer	ENTRO	+251 11 646 1130	+251 11 645 9407	sshazali@nilebasin.org
23	Mr. Mekuria Tafesse	Executive Consultant	ENTRO	+251 11 646 1130	+251 11 645 9407	Mtafesse@nilebasin.org
24	Dr. Solomon Abate	Regional Project Coordinator -WSP	ENTRO	+251 11 646 1130	+251 11 645 9407	sabate@nilebasin.org
25	Dr. Wubalem Fekade	Social Development Officer	ENTRO	+251 11 646 1130	+251 11 645 9407	wfekade@nilebasin.org
26	Mr. Jackson Elisoma Muso	Regional Project Coordinator - BASMPP	ENTRO	+251 11 646 1130	+251 11 645 9407	Jelisoma@nilebasin.org
27	Dr. Babiker Abdalla	Regional Project Coordinator - FPEWP	ENTRO	+251 11 646 1130	+251 11 645 9407	Babdalla@nilebasin.org
29	Eng. Ayalew Nigussie	Regional Project Coordinator – EN I & D project.	ENTRO	+251 11 646 1130	+251 11 645 9407	anigussie@nilebasin.org
30	Mr. Michael Abebe	JMP Project Coordinator	ENTRO	+251 11 646 1130	+251 11 645 9407	mabebe@nilebasin.org
31	Mr. Awoke Kassa	M & E Specialist	ENTRO	+251 11 646 1130	+251 11 645 9407	akassa@nilebasin.org
32	Kebede Ourgessa	Procurement Officer	ENTRO	+251 11 646 1130	+251 11 645 9407	kourgessa@nilebasin.org
33	Mr. Hisham Abdelrahman	Communication Specialist	ENTRO	+251 11 646 1130	+251 11 645 9407	Habdelrahman@nilebasin.org
35	Mr. Yohannes Daniel	Water Resource Expert	ENTRO	+251 11 646 1130	+251 11 645 9407	ydaniel@nilebasin.org
WRPMU						

36	Dr. Hesham A. Ghany	RPM	WRPMU	+251 116467011	+251 116467014	hghany@nilebasin.org
37	Dr. Abdulkerim S. Hussein	DSS-Lead Specialist	WRPMU	+251 11 646 7011	+251 11 646 70 14	aseid@nilebasin.org
38	Dr. Osman Eltom Hamid	PPMIC	WRPMU	+251 11 646 7011	+251 11 646 70 14	ochamad@nilebasin.org
Consultants						
39	Mr. James Peter Sutchiffe	Consultant	SWL	+251 911405865		peter.s@ethionet.et
40	Dr. Abeje Berhanu	Consultant	AAU	+251 111 225 948		abeje@sosa.aau.edu.et
41	Dr. Yasir A. Mohammed	Consultant	MoWR - Sudan	+249 916120615		y.mohamed@unesco-ihe.org
Development Partner						
42	Ms. Janny C. Poley	First Secretary (Hon. Africa Env. Program)	Embassy of the Royal Kingdom of the Netherlands	251113711100	+251 11 3711577	jc.poley@minbuza.nl
43	E. V. Jagannthan	Senior Water Management Specialist	World Bank	+251 115176064	+251 11 6627717	ejagannathan@worldbank.org
44	Cheikh DIA	Task Team Leader (E, E, S & Sudan)	AFD	+251 114425902		diac@groupe-afd.org

ANNEX 3: PICTURES


Wetlands in the basin
Literatures
1. Hurst, 1950, The Nile Basin, vol. VII
2. Jonglei Investigation Team, 1954
3. El-Hemry & Eagleson, (1980)
4. Sutcliffe, 1993.
5. Mohamed et al., 2004
6. WaterWatch, 2006

ANNEX 2.

WORKSHOP PROGRAMME

Nile Basin Initiative – NBI
Eastern Nile Technical Regional Office - ENTRO
Planning Workshop
On
Baro-Akobo-Sobat Multipurpose Water Resources Development Study Project

Workshop Program

S/No	Time	Activity	Responsibility	
Day 1: Monday- September 7, 2009				
1	**08:30 – 09:00am**	**Registration**	**ENTRO Admin**	
2	**Session 1: Opening session**			
	09:00 – 09:10am	Opening remarks	Jackson Muso	
	09:10 – 09:20am	Welcoming address	ENTRO ED Dr. Ahmed K.	
			Representatives of Egypt,	

	09:20 – 10:00am	Countries remarks and reflection on the Project	Ethiopia, & Sudan	
	10:00 – 10:30am	**Tea and Coffee Break**	**All Participants**	
	10:30 – 11:00am	An overview on Baro-Akobo-Sobat Project	Dr. Sherif Elsayed	
3	**Session 2: State of the Sub-Basin**			
	11:00 – 12:00noon	Paper on Water Resources of the sub-basin	Dr. Yasir Mohammed	
	12:00 – 12:30noon	Discussion	All Participants	
	12:30 – 02:00pm	**Lunch Break**	**All Participants**	
	02:00 – 03:00pm	Paper on Natural Resources & Environment of the sub-basin	James Peter	
	03:00 – 03:30pm	Discussion	All Participants	
	03:30 – 04:00pm	**Tea and Coffee Break**	**All Participants**	
	04:00 – 04:45pm	Paper on Socio-economic and Institutional Setup in the sub-basin	Dr. Abeje Berhanu	
	04:45 – 05:00pm	Discussion	All Participants	
Day 2: Tuesday- September 8, 2009 Chair: ENSAPT – Egypt.				
	09:00 – 10:00am	Presentation on the National Development Strategies on the Sub-Basin	By representative of Ethiopia and Sudan	
	10:00 – 10:30	Discussion	All Participants	
	10:30 – 11:00	**Tea and Coffee Break**	**All Participants**	

4	**Session 3: The way forward**			
	11:00 – 12:00noon	Approach paper on Baro-Akobo-Sobat multipurpose water resources development study project	Jackson Muso	
	12:00 – 12:30noon	Discussion	All Participants	
	12:00 – 02:00pm	**Lunch**	**All Participants**	
	02:00 – 05:00	Group discussions / **Tea and Coffee**	All Participants	
	02:00 – 05:00	**Group (I):** Means and Methods for updating data and information in the sub-basin	Dr. Abdulkerim, Dr. Sherif, Yohannes and Dr. Yasir	
	02:00 – 05:00	**Group (II):** Focus on suggested approach to the project study with reference to the proposals submitted to the AfDB and the drafted 2003 TOR	Dr. Solomon, Dr. Salah, Ato Mekuria and Dr. Abeje	
Day 3: Wednesday September 9, 2009			**Chair:**	**ENSAPT – Sudan**
	09:00 – 10:00am	Plenary: Presentation by groups	Group representatives	
	10:00 – 11:00am	**Tea and Coffee Break**	**All Participants**	
	11:00 – 12:00noon	Discussion on the group's findings	**Rapporteur team:-** Dr. Wubalem Fekade, Ayalew Nigussie, James	

			Peter, Jackson Muso and Hisham Abdel Rahman	
	12:00 – 2:00pm	**Lunch Break**	**All Participants**	
	02:00 – 02:45pm	Presentation of consolidated workshop outcomes / report	Dr. Wubalem Fekade for Rapporteur team	
5	**Session 4: Conclusion of workshop**			
	02:45 – 03:30pm	Summary remarks on the workshop outcomes	ENSAPT – Egypt, Ethiopia and Sudan	
	03:30 – 04:00pm	Official closing of the workshop	ENTRO – ED and ENSAPT Chair	
6		**Departure to Countries**	**ENTRO Admin**	