Government of the People's Republic of Bangladesh
Bangladesh Water Development Board
Water Resources Planning Organization

FLOOD ACTION PLAN

NORTHEAST REGIONAL WATER MANAGEMENT PROJECT (FAP 6)

KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT FEASIBILITY STUDY

ANNEX K
THE O & M PHASE: INSTITUTIONAL ARRANGEMENTS AND COST RECOVERY

Final Report
March 1998

SNC ♦ Lavalin International
Northwest Hydraulic Consultants

in association with

Engineering and Planning Consultants Ltd.
Bangladesh Engineering and Technological Services

Canadian International Development Agency

2

COVER PHOTO: A typical village in the deeply flooded area of the Northeast Region. The earthen village platform is created to keep the houses above water during the flood season which lasts for five to seven months of the year. The platform is threatened by erosion from wave action; bamboo fencing is used as bank protection but often proves ineffective. The single *hijal* tree in front of the village is all that remains of the past lowland forest. The houses on the platform are squeezed together leaving no space for courtyards, gardens or livestock. Water surrounding the platform is used as a source of drinking water and for waste disposal by the hanging latrines. Life in these crowded villages can become very stressful especially for the women, because of the isolation during the flood season. The only form of transport from the village is by small country boats seen in the picture. The Northeast Regional Water Management Plan aims to improve the quality of life for these people.

Government of the People's Republic of Bangladesh
Bangladesh Water Development Board
Water Resources Planning Organizations

FLOOD ACTION PLAN

NORTHEAST REGIONAL WATER MANAGEMENT PROJECT (FAP 6)

KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT FEASIBILITY STUDY

ANNEX K
THE O & M PHASE: INSTITUTIONAL ARRANGEMENTS AND COST RECOVERY

Final Report
March 1998

SNC ♦ Lavalin International
Northwest Hydraulic Consultants

in association with

Engineering and Planning Consultants Ltd.
Bangladesh Engineering and Technological Services

Canadian International Development Agency

ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
BBS	Bangladesh Bureau of Statistics
BIWTA	Bangladesh Inland Water Transport Authority
BIWTC	Bangladesh Inland Water Transport Corporation
BRDB	Bangladesh Rural Development Board
BWDB	Bangladesh Water Development Board
CD	Capacity Development
CIDA	Canadian International Development Agency
DAC	Development Assistance Committee
DAE	Department of Agricultural Extension
DC	Deputy Commissioner (formerly District Commissioner)
DOF	Department of Fisheries
DPHE	Department of Public Health Engineering
GOB	Government of Bangladesh
KK	Kalni-Kushiyara
KKRB	Kalni-Kushiyara River Basin
KKCDMP	Kalni-Kushiyara Community Development and Monitoring Project
KKRMP	Kalni-Kushiyara River Management Project
LGED	Local Government Engineering Department
m	metre
MLGRD&C	Ministry of Local Government, Rural Development & Cooperatives
MOE&F	Ministry of Environment and Forest
MOF&L	Ministry of Fisheries & Livestock
MOL	Ministry of Land
MOS	Ministry of Shipping
MOSW&WA	Ministry of Social Welfare and Women Affairs
MOWR	Ministry of Water Resources
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
O&M	Operation and Maintenance
PPTA	Project Preparation Technical Assistance
PWD	Public Works Department
TA	Technical Assistance
Tk	Taka (Bangladesh currency. $1 CDN = approx. Tk 30)
TVA	Tennessee Valley Authority
TNO	*Thana Nirbahi* Officer
UNDP	United Nations Development Programme
USA	United States of America
USACOE	US Army Corps of Engineers
WARPO	Water Resources Planning Organization

GLOSSARY

khas	government owned land or water bodies
taka (Tk)	unit of currency, 1 US $ = 40 taka (approx.)
thana	geo-administrative unit under a district comprising several unions
union	geo-administrative unit under a thana comprising several villages

TABLE OF CONTENTS

LIST OF TABLES

1. INTRODUCTION

Based on past difficulties of carrying out O&M and recovering associated costs for flood control and drainage projects in Bangladesh, it is apparent that new institutional capacity will be required following completion of the capital construction phase of the KKRMP. This Annex addresses this issue.

Chapter 2 extracts relevant results of a seminar that took place in Dhaka in December 1997 and which focussed on institutional arrangements and cost recovery for the KKMRP. Chapter 3 provides suggestions for follow-up actions that would lead to initial definition of an institutional model that, if adopted, would be expected to result in success with O&M, including cost recovery. Chapter 4 defines capacity development, which is the process required to take the initial model from concept to implementation, summarizes a possible capacity development approach, and refers to an Appendix that describes a process that could be applied to implementation of the KKRMP. Chapter 5 provides summary examples of institutional arrangements from North American institutions involved with river management.

2. SEMINAR FINDINGS, ISSUES, CONCERNS

2.1 Objectives of Seminar

On December 8-9, 1997, a Seminar on River Management was held in Dhaka. Its objectives were:

1. To present the KKRMP, highlighting its multi-sector nature and placing emphasis on the issues of institutional arrangements during the implementation and operation and maintenance (O&M) phase and cost recovery.

2. To seek input from the participants on the preferable institutional arrangements for the implementation and O&M phases.

3. To seek input from the participants on possible O&M cost recovery sources.

The two-day seminar is documented in detail in a "Summary of Proceedings" (Appendix K.2), including Annexes (GOB/CIDA, 1997). The following section provides a summary of key findings and issues relevant to institutional arrangements and cost recovery for the O&M phase of the KKRMP.

2.2. Seminar Findings and Issues Regarding O&M Institutional Arrangements and Cost Recovery

There were two main relevant findings from the seminar:

1. Although there was general agreement on the elements of institutional arrangements for implementation, there was a divergence between GOB and CIDA/ADB on the type of institutional structure required to ensure sustainability during the O&M phase of the project. The ADB representative stated that for the O&M phase, the project requires a policy and institutional arrangement that would ensure sustainability of the project. On the other hand, the position of GOB on that issue is that the O&M phase activities could be addressed through existing institutional arrangements.

2. There was a consensus on the following issues for a cost recovery system:

   - there was support for fees, levies and taxes in order to ensure sustainability;
   - the approach must be integrated, with improved coordination between all stakeholders;
   - there must be participation and a sense of ownership by beneficiaries;
   - there must be appropriate legislation, laws and regulations - either new or improved - to ensure payments are made;
   - there must be transparency and accountability, and

- there must be political will and commitment.

Relevant key issues and concerns, for which there were varying degrees of consensus amongst the participants, were as follows:

- there is a need for administrative and technical linkages - both horizontal (multi-sector) and vertical (local, regional and national);
- there must be independent control of management over resources and revenue;
- cost sharing between parties - e.g. landowners, transportation operators, GOB, etc. must be based on benefits received as well as ability to pay;
- dredging must be contracted out, and
- opportunities for cost recovery exist from navigation, land transfer taxes, platform fees, fishing licenses and levies on water bodies.

Important and relevant statements made by key individual participants were:

***ADB** - John F. Brooks, Officer in Charge, Bangladesh Resident Mission*
ADB is as yet (December 1997) "...unable to make any firm commitment to the Project, especially in the absence of a firm understanding on operations and cost recovery".

***State Ministry of Planning** - Dr. Muhiuddin Khan Alamgir, State Minister for Planning, Civil Aviation and Tourism.*

"For successful implementation, operation and maintenance as well as cost recovery, we will need an appropriate institution".

***Ministry of Water Resources** - Dr. A.T.M. Shamsul Huda, Secretary.*
"... the task before the Bangladesh Government and the project beneficiaries is to ensure project sustainability. The basic question boils down to the willingness of the beneficiaries to pay for the maintenance so that the benefit generated can be sustained through proper operation and maintenance. In the past, the BWDB has ignored this issue but the time has come when this needs to be discussed and sorted out".

Interpretation
Based on the above-noted main findings of the seminar, there are challenges to be addressed before implementation of the KKRMP can proceed. The fundamental challenge is to find a solution to two diverging viewpoints on O&M institutional arrangements - with related provisions for cost recovery. Fundamentally, GOB prefers to use existing institutional structures, such as BWDB, BIWTC, etc. GOB perceives the creation of a new independent institution to manage the O&M phase structures within the KKRMP as a direct form of increase of the GOB civil service force. This would go counter current to the existing Prime Minister directive for reduction of the National Civil Service. Past poor performance with O&M and associated cost recovery in the water sector in Bangladesh have led CIDA and ADB to be sceptical of GOB's preference with regards to these matters.

Other challenges, such as determining allocation of cost recovery, and contracting out or privatization of dredging will be met provided the fundamental institutional challenge is itself met. In any case, it is envisaged that the process of reaching a sustainable organization for O&M will involve two areas of technical assistance (TA) to the KKRMP. The first TA will help define the type of organization suitable to the main stakeholders; this TA should be carried out prior to project implementation. The second will assist in the development of the defined organization; this should be carried out during implementation.

3. FOLLOW-UP ACTION: PROJECT PREPARATION TECHNICAL ASSISTANCE (PPTA)

3.1 Objectives

To assist with the development of appropriate O&M institutional and cost recovery arrangements, ADB is planning to undertake a Project Preparation Technical Assistance (PPTA). Because the final institutional arrangements must be bought in to by GOB and ADB, it is assumed that the PPTA would essentially be a facilitating process whereby ideally agreement is reached, or at least substantial progress is made.

To address the fundamental challenge, it will be necessary that:

- each party take the time to completely understand the other's viewpoint; this first requires a willingness by each party to recognize and accept that a new solution can be found that will result in a win-win situation;
- one or more alternatives be developed and analyzed - primarily from the viewpoint of sustainability, and
- the parties then sit together to find an alternative that meets each others objectives.

The KKRMP is a 30-year project, consisting of a seven year implementation phase and a 23 year O&M phase. Hence the ***objective*** of the PPTA should address the latter phase, and would be *to determine O&M institutional arrangements and a cost recovery mechanism that ensure project sustainability*.

Although final Terms of Reference for the PPTA must be agreed between the concerned parties, following are suggested activities that should be considered.

3.2 Institutional Arrangements

Seven activities are proposed with regards to institutional arrangements.

1. Through review of reports and discussions with GOB officials, become familiar with the existing institutional and community institutions involved with the KKRMP.
2. Undertake a review of autonomous institutions whose mandate includes the management of rivers for navigation and flood control in other countries.

   For each institution, the review should include:

   - its mandate, history of development/change, organization and management structure, activities, method of cost recovery, policy environment, and lessons learned;
   - its role/approach to coordinating with other institutions involved with or affected by the institutions' activities, and
   - the legal status, including legislation, laws and regulations that govern its operation.

The review should undertake a preliminary assessment from institutions globally, but provide details for a selected number of institutions whose experience is most similar to the requirements of the Kalni-Kushiyara. For the detailed analyses, it would be particularly important to understand how institutional policy is developed and changed, and how it relates with policy in other areas (e.g. what are areas of overlap, and how are these handled).

3. In consultation with both GOB and ADB, develop and get an agreement on the objectives and criteria for the final institutional model. This will require reaching a clear understanding of each stakeholder's viewpoints. For example, GOB's legal obligations and current institutional mandates must be clearly understood and appreciated. Also ADB's concern, expressed on behalf of its member countries, for previous lack of success with O&M and cost recovery must also be understood and appreciated.

4. Develop a definition and detailed description of the two diverging models. The first model is the "status quo" approach governed by a Steering Committee and using existing GOB institutions, including BWDB, BIWTA, LGED, etc. Details of the model would be obtained in close consultation with GOB. The second is the river basin management approach, operated by an independent institution whose mandate is to manage the Kalni-Kushiyara River Basin. In the latter case, the actual institutional model to be analyzed would be developed in close coordination with ADB.

5. Undertake an analysis - from the viewpoint of sustainability - of the two diverging institutional models. The analysis should include a comparison (pros and cons) of:

    - funding authority and mechanisms, independence, enforceability and reliability;
    - allocation of cost recovery - e.g. revenue sources and percentage of total for each source - and how related to project benefits (this would be done in parallel with the cost recovery study outlined in section 3.3);
    - impact on existing institutional arrangements, particularly from a human resources viewpoint;
    - managerial and technical know-how;
    - capacity for adequate staff compensation;
    - awareness, cooperation, and participation of beneficiaries;
    - legal status, including vulnerability to change, or adaptability to change;
    - competition and/or threats from other institutions;
    - political support;
    - accountability and transparency;
    - success, or opportunity for success, in coordination with other related institutions, and

- level of decentralization/authority.

The outcome of the analysis should be a form of quantitative and/or qualitative ranking, so that differences can be recognized and prioritized.

6. Using the results of the analysis, drawing on the characteristics of the reviewed international institutional models, and through consultation with GOB and ADB, develop one or more *alternative* models that meet the agreed objectives and criteria. The model (s) should include all of the key components of an institution, e.g. purpose, structure, policy/regulation environment, leadership, relationships with technology, reward system, and interaction with the existing institutional environment.

7. Recommend a model, or models, to be used as the basis for final negotiations between GOB and ADB.

3.3 Cost Recovery

Several possible sources of cost recovery have been identified during the KKRMP feasibility study which have been confirmed at the seminar. These are:

- recovery for flood protection in the form of land taxes;
- recovery for navigation benefits in the form of levees on passengers, through cargo and transit to/from India;
- recovery from commercial/industrial development associated with the regional economic development which will follow the implementation of the KKRMP, and
- recovery from the development of fisheries, possibly through licensing fees.

The following activities are proposed for the TA's Terms of Reference with respect to Cost Recovery:

1. Evaluate, with GOB, the potential sources of cost recovery and determine which are likely to be implemented. For example, land taxes may not be appropriate, at least in the first years of the O&M phase. In recent years, at the request of international lending agencies, GOB has reduced or eliminated altogether subsidies on agricultural inputs such as fertilizers, etc., placing a supplementary burden on the farmers' expenses. Under these conditions, imposing a land tax may excessively worsen their plight.

2. Identify within GOB the agencies which would be responsible for each recovery source.

3. Determine with GOB a proper mechanism to recover costs from individual sources.

4. Determine if current policies, laws and regulations are adequate to recover costs, especially with due regards to the type of organization which will be put in place to manage the O&M phase.

5. Determine with GOB the steps required to improve existing policies, laws and regulations if they are deemed deficient or to enact new ones if they are non-existent.

6. Determine with GOB a mechanism to transfer the recovered costs to the organization in-charge of O&M.

4. CAPACITY DEVELOPMENT: ADVISORY TECHNICAL ASSISTANCE

4.1 The Need for Advisory Technical Assistance

A successful ADB PPTA would provide a definition of the new institutional and other *capacity* that GOB would strive for over time. Development of new capacity is recognized as a long term process, perhaps requiring 10 to 15 years or more. Capacity development is also a dynamic and iterative process. To further ensure sustainability, it is appropriate that donors consider assisting GOB with the development of agreed new capacity in parallel with implementation of the KKRMP. In this context, this Chapter provides a possible approach to capacity development for the KKRMP. It is assumed that this process, or some other process accepted by stakeholders, will form the basis of and Advisory Technical Assistance (TA) that will take place in parallel with implementation.

4.2 Capacity Development: Definition, and Needs for the KKRMP

Definition

Capacity - as used herein - is the ability of individuals and organizations to perform functions effectively, efficiently and sustainably. It centres on institutional development by attending to organizational governance and internal structure, accountability, roles, responsibilities, processes, systems and facilities, within which people plan, manage and implement work. The products of successful capacity development will be functions, organizations, systems, groups and people whose performance is observably improved in relation to the KKRMP objectives.

Needs for the KKMRP

The economic life of the KKRMP is 30 years. After 7 years, and at the end of the intervention phase, external support will be phased out. At that time, all Bangladesh stakeholders will take charge of the project for its O&M phase from Project Years 8 to 30. The work to be carried out annually during the O&M phase will in most respects be similar to the intervention itself, but at a reduced scale. It will consist of monitoring the river's behaviour and response to the project intervention; annual maintenance dredging of up to 1 million m^3; land dedication for new or extended platforms, followed by their construction and maintenance; and maintenance of bank protection, levees, and structures. However, there is a risk - or even a probability - that without a targeted capacity development approach, the organization that is developed for implementation is disbanded when the project intervention is completed.

A long-term KKRMP management structure must be designed to ensure that relevant agencies and organizations continue to be represented, especially after external funding and assistance is withdrawn. Table K.1 outlines the current structure of institutions directly related to the KKRMP, while Table K.2 of the same report identifies the roles and weaknesses of these institutions relevant to sustaining the KKRMP benefits during the O&M phase. Taking this one step further, Table K.3 identifies outputs (products) which must be maintained during the O&M phase, the activities necessary to maintain them and the agencies or institutions responsible for the O&M. It is these organizations that will most likely be the focus of capacity development activities.

As noted above, the ADB PPTA is expected to result in definition of the new institutional and other capacity that GOB would strive for over time. It is appropriate at this point to set priorities

for capacity development. This will serve as background for the ADB PPTA, and lay the initial groundwork for preparing a capacity development plan, through an Advisory TA which should be in place early in the implementation phase.

4.3 A Capacity Development Approach

As noted above, capacity development normally focus on institutional development. Commonly, institutional development focuses on strengthening the performance of single organizations or networks of closely related organizations. However, based on the consultant's experience, and that of others engaged in similar work, a broader capacity development approach is needed to ensure sustainability of the KKRMP. This broader approach must be applied to both institutional and community development for the institutions, agencies, organizations, groups and individuals which will need to be able to continue generating the benefits of the Project when external funding is expended.

An example of a broader capacity development approach is one that is jointly promoted by OECD/DAC, CIDA and ADB (OECD/DAC, 1994; ADB, 1996). Their approach extends principles of institutional development to situations where various kinds of organizations, their networks and people have responsibilities to perform related functions. This is the situation for the KKRMP, where Government agencies with responsibilities across many sectors must cooperate with other private, non-governmental and community based organizations. This capacity development model includes training of individuals and groups, including improvements in the other factors of an individual's working environment that enable effective utilization of what was learned in training. The approach also considers external socioeconomic, legislative and regulatory constraints, networking among complementary organizations, and adjusting to competing ones. This is a model that could be adopted for the KKRMP. Further details on this approach can be found in Appendix K.1 of this Annex.

Whatever approach is employed, it is important to understand that successful capacity development is inherently an iterative process. As such, it enables phasing of responsibilities (including financing), from the aid-funded KKRMP to governmental, private, NGO and community groups. The process is similar to that used to develop a "project". It begins with consultations as well as participatory identification and confirmation of priorities. It then proceeds with developing participatory approaches through assessments, detailed planning, implementation, monitoring, and reporting. It is also likely that the process itself might be cycled iteratively. Given KKRMP complexities and the fact that some functions needed to sustain its results and benefits are not being performed today, an overall time frame to develop capacities adequate for sustainability may require 10 to 15 years.

Table K.1: Structure of Directly Relevant Institutions

Ministry/ sector	Institution	Mandate	Focal Point				
			National	District	*Thana*	Union	Village
Ministry of Water Resources		Water policy	Secretary				
	BWDB	Water Management	Chairman	SE (Circle), Executive Engineer (Division)	Sub-Divisional Engineer (Sub-division)		
Ministry of Shipping	BIWTA	Navigation	Chairman				
Ministry of LGRD&C	LGED	Rural physical infrastructure	Chief Engineer	Executive Engineer	Thana Engineer		
	DPHE	Drinking water and sanitation	Chief Engineer	District Public Health Engineer	Thana Public Health Engineer		
	Local Government Division	Local government	Secretary	Chairman, District Council (proposed)	Chairman, Upazila Council (proposed)	UP Chairman	
	BRDB	Rural development	Director General	Deputy Director	Rural Development Officer/ TCCA		KSS
Ministry of Fisheries and Livestock	DOF	Fisheries extension	Director General	District Fisheries officer	Thana Fisheries Officer		
Ministry of Environment and Forestry	DOE	Formulation and enforcement of environmental regulations	Director General				
Ministry of Planning	BBS	Census and survey	Director General	Regional Statistical Officer	Thana Statistical Officer		
Ministry of Establishment		Public administration	Secretary	Deputy Commissioner	Thana Nirbahi Officer	UP Chairman	
Ministry of Land		Land administration	Secretary	Deputy Commissioner	Thana Nirbahi Officer	UP Chairman	
Ministry of Agriculture	DAE	Agricultural Extension	Director General	District Agricultural Officer	Thana Agriculture Officer		
Non-Government Sector	Grass-roots groups/ informal institutions	Economic and social development					NGO LCS, stakeholder committee, samaj

Table K.2: Roles and Weaknesses of Institutions Relevant to Sustaining KKRMP Benefits

Agency, Institution, Organization	Mission, Mandate, Roles and Responsibilities	Weaknesses in Relation to KKRMP
Biophysical: Water Resources Development and Management		
MOWR-Ministry of Water Resources	Overall responsibility for water resource development and management in Bangladesh.	Weak co-ordination with other ministries & departments
BWDB-Bangladesh Water Development Board	Key national agency in water sector. Semi-autonomous under the jurisdiction of the Ministry of Water Resources; planning, implementation, design, construction, maintenance of flood control, drainage and major irrigation works.	Cumbersome procedures. Weak user participation. Weak responsiveness to users. Start-up & implementation delays.
Land-Land and Water Use Directorate	Responsible for extension work related to BWDB projects.	Weak coordination with DAE.
MOS-Ministry of Shipping BIWTA-Bangladesh Inland Water Transport Authority (Autonomous national agency under MOS)	Responsible for development, maintenance and control of inland water transport and certain inland navigable waterways, river conservancy works, dissemination of navigational and meteorological information, maintaining pilotage and hydrographic survey service, channel maintenance, development and O&M of inland river ports and terminal facilities.	Weak implementation of procedures for collecting approved charges (tariffs etc.) from river traffic.
MOE&F-Ministry of Environment and Forest	Formulation and enforcement of environmental laws and regulations, training and environmental education, environmental planning management, and monitoring.	
DOE-Department of Environment	Environmental Impact Assessment; providing advice to line agencies on their activities affecting soil and water conservation, forests, wildlife and other natural resources.	Unable to carry out many of its responsibilities, due to insufficient institutional resources such as staff, equipment and so on.
The Ministry of LGRD & C LGED - Local Government Engineering Department	Responsible for rural physical infrastructure including construction and maintenance of growth centre connecting roads, development and maintenance of small-scale water management structures, provides technical support to district and *thana* level in design, construction, operation and maintenance of local civil infrastructure.	Weak mechanism for coordination with other Ministries and sector departments.
MOL-Ministry of Land Administration and Land Revenue	Owner of all *khas* land, responsible to manage and dispose of *khas* land as per the law. Acquires land needed in the construction of civil works.	Few staff and delays in land acquisition applications.

Agency, Institution, Organization	Mission, Mandate, Roles and Responsibilities	Weaknesses in Relation to KKRMP
Socio-economic: Food and Agriculture		
MOF&L-Ministry of Fisheries and Livestock	Responsible for fisheries resources management, conservation, development, enforcement, statistics, quality control, extension and training for both inland and marine.	
DOF-Department of Fisheries		DOF suffers from shortcomings in planning, project implementation, design of extension activities and inter-agency coordination. Absence of a clear mandate for the DOF results in "confusing and/or overlapping divisions of responsibility" between DOF and MOWR, MOL, FRI, BFDC and *thana* administration. Committed donor assistance cannot be fully utilized.
FRI-Fisheries Research Institute	Does research on aquaculture, riverine fisheries, marine fisheries and brackish-water fisheries.	There is a need for involvement of DOF in program prioritization of FRI research activities.
MOA-Ministry of Agriculture		
DAE-Department of Agricultural Extension	1982: Disseminates crop production information to farmers.	Extension service lacks links to other agencies involved in the sector; communications are poor especially in the northeast and hinder delivery of extension services to remote areas.

Agency, Institution, Organization	Mission, Mandate, Roles and Responsibilities	Weaknesses in Relation to KKRMP
Socio-economic: Community Development		
Deputy Commissioner (under Ministry of Establishment)	Exercise land acquisition authorities at district level for development activities.	Delay in land acquisition process.
TNO - Thana Nirbahi Officer	Public administration at the *thana* level.	
UP-Union Parishad (lowest-level local self-government council under the Ministry of LGRD & C.	Play important role in the management and maintenance of roads, rural markets and small water bodies.	
Upazila Parishad	Not yet functional only recommended by a commission, set up by the government, to operate at the *thana* level.	
DPHE-Department of Public Health Engineering (A national agency within the Ministry of LGRD&C)	The key government agency in the field of drinking water and sanitation and is mainly responsible for installation and maintenance of rural potable water supply system based on a network of hand tube wells. It also provides extension service for installation of water seal latrines.	Lack of resources for expansion of programs.
NGOs	They follow a "target group approach", where the landless and women are the target audience. They are broadly grouped into 2 categories in terms of their activities: service delivery and catalytic. Social mobilization , rural development, capacity building and institutional development of the vulnerable groups, through the formation of village-based groups or cooperatives by the "conscientization process"; health and family planning services, particularly community health education; non-formal education, particularly for adults; rural credit; promotion of employment, in the field of livestock, poultry, fisheries, and sericulture; training for income generating activities.	There is very little NGO activity in the project area due to the difficult conditions. In particular there is no NGO active in micro-credit because re-payment of loan are unreliable.

Agency, Institution, Organization	Mission, Mandate, Roles and Responsibilities	Weaknesses in Relation to KKRMP
Grass-roots Institutions:		
LCS- Landless Contracting Society	A group centred around a *Sadar*, involved in earthwork.	
Others	Traditional social institutions at the village level named as *samaj* who exerts influence over its members and regulates their social and economic life.	
Socio-economic: Census and Survey		
Ministry of Planning Bangladesh Bureau of Statistic	Responsible for Census surveys and publications, and statistics on Bangladesh	Backlog of work, delays in publications.

Table K.3: Institutional Requirements to Meet KKRMP Objectives

OBJECTIVES	OUTPUTS or PRODUCTS that must be maintained for benefits to continue after KKRMP.	RESPONSIBILITIES and ACTIVITIES necessary to sustain production of OUTPUTS	RELEVANT BANGLADESH ORGANIZATIONS
River Stability	Two loop cuts, river training works, structures	River surveys, reports, annual dredging of silted reaches, monitoring, and responsive maintenance for levees, dykes, embankments, inlets, outlets etc.	
	Improved fisheries production	Monitoring, development and execution of fisheries enhancement program.	DOF
Year-round River Transportation (purpose)	Class II channel in Kalni River	Annual dredging to maintain 2.4 m draught during the dry season.	BIWTA
		Assessment and collection of fees from additional river traffic and marketed food production enabled by KKRMP, for dedication to dredging costs.	BIWTA
Improved Agricultural Production (purpose)	The outputs are direct results from the stability of the river	Monitoring of crop damages and crop production	DAE
Improved Human Settlements (purpose)	Secure village platforms above flood levels	Systematic monitoring and maintenance by land owners and villagers.	Village committees, Deputy Commissioners, TNOs, NGOs
		Construction of confinement dykes, homestead platforms and growth centres.	BWDB, LGED
		Short and long-term green manuring, plantation programs and monitoring.	DAE, Department of Forestry.
		Health, sanitation, drinking water, habitat and basic education services and maintenance.	Village committees, DPHE, LGED, NGOs,
Economic activity enhancement (goal)	Increased employment & income	Monitoring of the project area from sample surveys.	BBS
		Monitoring and generation of employment activities on the homestead platforms.	BRDB, NGO's, MOSW&WA
All objectives	Coordinated management of the KKRMP	Appraisals, recommendations to facilitate decisions on river basin committee structures. Coordination by authority at the level of ministerial secretary across sectors and agencies relevant to flood protection, dredging and revenue generation to pay for it, transport, habitat, basic needs, poverty alleviation.	MOWR, MOS, MOL, Min. of Establishment, Min. of Finance, MOE&F, MOF&L, MLGRD&C, MOSW&WA and their departments or administration units responsible in the KKRB, plus others.

4.4 General Thrust for Capacity Development in KKRMP

Determining priorities is the first step in capacity development for the KKRMP. Priority setting activities need to pay attention to the following O&M functions:

- Overall coordination of management of water resources throughout the KKRMP;
- Managing the deposition, development, utilization, protection and maintenance of large amounts of spoils from loop cut construction and river dredging. This function should identify the organizations and people involved, the systematic processes to be established, the skills and knowledge required;
- Continuous monitoring and reporting of river morphology and associated dredging to maintain the river channel depth and velocities required to reduce pre-monsoon flooding and increase river traffic;
- Monitoring of increases in river traffic as a direct result of the KKRMP, assessments of appropriate revenue generation (taxes, licensing, tariffs, fees etc.), designing and implementation of systems for collection of these revenues and their application to ongoing costs for river maintenance during and after the Project, including: who will assess, what criteria are to be applied and how, who will pay and how, where the proceed will go?;
- Decentralized effective protection and maintenance of various flood control structures, that along with a cleared river channel, are necessary and sufficient for stopping pre-monsoon flood destruction of crops at least 4 years out of every 5, including - what, when, by whom?, and
- Representative coordination through federation of village and other committees from the community to successively higher levels within the Kalni-Kushiyara river basin - what levels, how, what political and legal implications?.

4.5 Specific Thrust for Capacity Development

The following sections identify the specific areas where it is expected that capacity development will be required. These areas should be analyzed more in depth both prior to (e.g. during ADB PPTA) and immediately after formation of the project organization. A distinction is made, herein, between institutional development, addressed to the relevant government institutions, and community development, addressed to platform beneficiaries.

4.5.1 Institutional Development

O&M Financing

From past experience, a number of water resource development projects deteriorate or fail outright because funds are either not allocated or insufficiently allocated to carry out O&M. This weakness was identified and recognized in the December 1997 KKRMP Seminar.

29

In the specific case of the KKRMP, the capacity of the platform beneficiaries to fund the costs of O&M work is limited by their income, one of the lowest in Bangladesh. At best, the beneficiaries will be in a position to protect and maintain their platforms from their own resources, in anticipation that these resources will increase as a result of reduced crop damage. For other maintenance work (levees), the beneficiaries can contribute labour.

The possibility of collecting fees from additional river traffic and marketed food production, or from selling spoil material for private land (e.g. industrial) development, should be assessed by the ADB PPTA, in order to recover part of the dredging costs. Other avenues to generate funds from beneficiaries should also be explored. Supplementary funds will almost certainly be required for O&M, and these will most likely have to be budgeted by GOB; sustainability of the project will require a firm GOB commitment in this regard. The background of O&M cost recovery in Bangladesh, and specific suggestions for the KKRMP, are discussed in Chapter 11 of the Main Report.

O&M Implementation

Assuming the status quo, it is expected that BWDB will be responsible for dredging for channel stability as well as for levees and structures, and navigation dredging will be carried out by BIWTA. During the intervention phase, BWDB and BIWTA staff deputed to the project could be trained by the consultants to assume responsibility for the river monitoring (Annex I - EIA), and to take responsibility for the river management program. This training must be part of the Capacity Development (CD) component, and include focused sustainability measures.

It should also be noted that during the course of the implementation some of the agencies participating directly in the KKRMP are likely to receive external support for capacity development and institutional strengthening. As an example, the World Bank is currently developing a project with GOB to strengthen the capabilities of BIWTA for navigation dredging. The program includes Operation Improvement, Institutional Development, Financial Recovery, and Strategic Plan components.

Land Acquisition

The MOL under the respective DCs, together with the concerned government departments at the respective *thana* levels, would execute land acquisition through purchase from individual landowners and allocation of the required *khas* lands. When the detailed engineering survey has been completed, these offices would survey land ownership of private landowners and of others using *khas* land within the areas requiring land acquisition. The Land and Water Use Directorate of the BWDB would appoint staff to work with field teams in land documentation, survey, community briefing and preparation so that they take charge of the process in the long-term.

Impacts and Benefits Monitoring

During implementation, project impacts will be monitored in four sectors of the economy, agriculture, river transportation, fisheries and employment and income (Annex I - EIA). This impact monitoring would thereafter be the responsibility of DAE (agriculture), DOF (fisheries) and BBS (river transportation, employment and income). For river transportation, it is estimated at present that monitoring would be carried out more efficiently by BBS who has a Statistical Officer and support staff in each *thana* rather than by BIWTA, who has no field representation.

During implementation, the deputed staff of the agencies responsible for monitoring should be trained in impact monitoring, development of the baseline framework, pre-project surveys and

development of the database and surveys and data processing. This should be done under the CD component and should include focussed sustainability measures.

4.5.2 Community Development

Community Management Capacity

Although they are not unlike other committees in rural Bangladesh, the village committees in Gazaria and Kakailseo (Annex J - Pilot Dredging Project) did not perform well in matters where they were required to serve civic interests beyond their own economic or political interests. Nevertheless in the future, a committee selected by the community will be necessary for the management of platforms. The committee will only be functional when it can command support from the village's politically influential leadership. The CD component must build on lessons learned in the pilot project, both during and after the feasibility study. As a start, a number of lessons learned and ideas are provided in Annex D - Social.

Women's Empowerment

In the remote project area, women have not been exposed to any of the development programs, widely found in other rural areas of Bangladesh. They have no form of gender-specific groups or organizations, and no access to education, technical knowledge or credit. Women have no effective role on the platform committees in the pilot communities (Annex D - Social). In a follow-up to the Pilot Dredging Project - the Kalni-Kushiyara Community Development Monitoring Project (KKCDMP) - women as platform beneficiaries are specifically targeted in groups with a savings and credit component. They will be exposed to training in improved horticulture practices, nutrition, platform protection and hygiene and sanitation. Selected platform beneficiary women will be trained in the construction of ring seal latrines, while others will be supported to develop tree nurseries. Through their group activities and improved incomes, it is expected that women's capacity in decision-making and community participation will be strengthened. It is anticipated that during the course of the KKCDMP, a suitably, gender-orientated organization will be attracted to the project area. Implementation of such a program requires that female community organizers are fielded and supported in the project area.

4.6 Cost Estimate for Capacity Development

A cost estimate for the capacity development component of the project is presented in Table K.4. Details of this estimate are provided in Annex L - Project Management Plan. However, this is not included as a direct project cost but is expected to be funded under the CD Plan.

It is emphasized that successful capacity development is a necessity for sustainability of this project, which cuts across many Ministerial boundaries.

Table K.4: Cost Estimates for Capacity Development

Organization	Institutional Development ('000 Tk)	Community Development ('000 Tk)	Total Capacity Development ('000 Tk)
GOB	7,431	3,648	**11,079**
Consultants	62,465	120,654	**183,119**
Total	**69,896**	**124,302**	**194,198**

5. EXAMPLES OF RIVER BASIN MANAGEMENT ORGANIZATIONS FROM NORTH AMERICA

It is recognized that management of the Kalni-Kushiyara system will require institutional arrangements that are developed by stakeholders – primarily Bangladeshis. However, in order to facilitate dialogue between participants in development of operation and maintenance of an improved Kalni-Kushiyara system, some models of existing arrangements in North America were examined on a preliminary basis. These models are summarized in Table K.5, and are described in this section.

5.1 Lower Fraser River, Canada

Organization and Mandate

The lower Fraser River annually deposits about 1.3 million cubic metres of sediment in the shipping channel used by international cargo vessels. Prior to 1982, the Canadian federal government - through a regional office of its Public Works Department - was responsible for managing and funding the removal of this sediment to ensure safe navigation. However, since 1982, the Canadian Coast Guard - whose overall mandate includes maintenance of maritime safety and facilitation of maritime trade and commerce - has been responsible for managing the navigable channel, including maintaining a specified minimum channel depth and breadth, and obtaining partial cost recovery. While the Coast Guard sets standards for dredged minimum grade (-10.2 m) and channel dimensions for users, Public Works Canada now acts as the Coast Guard's Project Manager and Engineer to determine and manage the amount of annual channel dredging work done on the Fraser. Under the direction of the Coast Guard, Public Works Canada also monitors the channel through regular river surveys.

Funding, Contracting, and Cost Recovery

The central office of Coast Guard - located in Ottawa - sets priorities for spending by needs and region. Coast Guard produces five-year forecasts of costs, and is annually allocated federal funds for works. The Fraser River region receives its annual appropriation from central Coast Guard.

Each year, two types of contracts are let. The first is an "on-demand" type contract, whereby high spots in the river are removed as required by a contractor, who has pre-negotiated a rate for dredging. The second is a major contract to dredge the navigable channel as required to remove deposition from the annual flood. For the major contract, the contractor agrees to remove a specified amount of material within a specified time frame. This time frame is sufficient for the contractor to recover some costs by selling some of the dredge spoil. Typically, between 40% and 60% of the total spoil is sold. This cost recovery is factored into the contract, thus reducing the funding obligation of government.

Currently, a process is underway to further devolve management of, and funding for, the dredging program to a local authority - the Fraser River Harbour Commission, which is a Federal Government Corporation. When this devolution is complete, the Commission will be responsible for funding of dredging, with no financial support from Government. The Commission has a mandate to lease harbour infrastructure and property to the private sector, and this provides some of the funding. It will also continue to fund dredging through sales of spoil.

Table K.5: Summary of Selected River Management Models in North America

Name/Country/ River	Organization	Mandate	Work Carried Out	Cost Recovery Method
Mississippi River Commission/USA/Mississippi	7-person executive body, directed by US Army Corps of Engineers, USACOE (Country-wide federal government institution, staffed largely by professional engineers)	Manage the main channel for flood control and navigation	Monitor hydrotechnical status of river; forecast required annual works; construct, rehabilitate and maintain dykes; dredge to maintain minimum navigation channel depth. Work done by four different USACOE Districts	Navigation Dredging: Federal government provides annual appropriations from general taxation revenues. Navigation rehabilitation or facilities replacement: financed from fuel-tax levy on barge-cargo traffic. Flood Control: capital work financed 50-50 from federal and local government; O&M from local government only.
Coast Guard, Public Works, & Harbour Commission/Canada/Fraser	Coast Guard and Public Works are local offices of country-wide federal government institutions, staffed by a variety of professionals; Harbour Commission is local corporation responsible for complete port management	Maintain minimum navigation channel depth; *transitioning* to maintaining required navigation channel	Coast Guard/Public Works: Monitor channel depths; dredge – through contracting to private sector. Harbour Authority: needs analysis, manage dredging, cost recovery planning	Currently: financed partly from federal government through annual budget appropriations, and from sale of dredge spoil. Near future: full recovery of costs from sales of dredge spoil and user fees/charges for various harbour infrastructure and property
Santa Cruz County/USA	Flood Control District (administrative), operating under County Board (elected)	Protect floodplain occupants from flooding	Monitor, and construct and maintain flood control works – primarily dykes	Recovered through a variety of taxation methods

Name/Country/ River	Organization	Mandate	Work Carried Out	Cost Recovery Method
Grand River Conservation Authority/ Canada/Grand	Government body composed of members from each municipality in the watershed, and staffed with professionals	Manage land and water resources in the watershed; reduce flood risk	Set policy, develop plans, prepare budgets, arrange financing, and collect fees. Through contracting out: river channel improvements, dyking, bank stabilization, flood proofing, and purchase of flood-vulnerable lands	O&M budgeted annually based on precedent, known conditions and surveys as required. Funded 50 percent by the Authority, and 50 percent by the Provincial Government
Tennessee Valley Authority/USA/ Tennessee	Federal Corporation, staffed by a variety of engineering and other professionals	Development and management of river for power production, navigation, flood control, recreation and water quality	Monitor dam conditions and safety; monitor water availability, quality and levels in reservoirs and river channels. Develop, maintain and improve infrastructure as required.	Financed annually by federal government appropriations. Local entities fund O&M of completed projects from local general revenues. Federal fuel tax for commercial navigation goes to national trust, to pay for future new projects.

In addition, harbour dues are collected from all commercial shipping vessels. Importantly, the Commission is also planning to implement a more effective dredging program by:

1. Obtaining better tide information so that larger ships move through the channel within specified higher-tide time frames; this will reduce the need for dredging since the channel is much deeper at higher tides.

2. Carrying out dredging based on forecasted use, rather than on continuously maintaining a minimum-depth. This means, for example, that dredging will be a function of the size of ships that are forecast to use the channel over a specific time frame. This will result in less dredging when larger vessels are not expected.

5.2 Mississippi River Commission, USA

Organization and Mandate

The Mississippi River Commission is a seven-person executive body that was formed in 1879 to facilitate improvement of the lower 1,500 km of the river. The Commission's initial mandate was to:

- Develop and implement plans to correct, permanently locate, and deepen the channel of the Mississippi River, to a minimum of 2.75m (9 feet);
- Improve and give safety and ease to the navigation thereof;
- Prevent destructive floods, and
- Promote and facilitate commerce, trade, and the postal service.

The general duties of the Commission included recommendations on policy and work programs, the study of and reporting upon the necessity for modifications or additions to the flood control and navigation project, recommendation of any matters authorized by law, inspection trips, and holding public hearings. Four US Army Corps of Engineer Districts carry out the work of the Commission.

In 1929, as a result of a disastrous flood, the Commission was given responsibility for developing and implementing the Mississippi River and Tributaries Project. This Project called for an extensive program of flood control, navigation, and bank stabilization, as well as initiatives to preserve environmental resources.

The current duties of the Commission fall into three broad categories: general investigations to determine needed improvements, construction of new facilities, and maintenance and operation of existing systems. Also, the Commission's geographic mandate now includes the entire main channel of the Mississippi River. Major tributary rivers are managed in a similar manner, but with different District Engineering offices.

Funding, Contracting, and Cost Recovery

Annually, each Engineering District carries out river surveys. It then submits to the Commission its forecast of required dredging based on the surveys, and equally important, on experience of the District staff. The Commission then requests from Congress (federal Government) an appropriation of the aggregate total of required dredging. Historically, Congress has always provided the required funding.

If extraordinary conditions arise – such as increased sedimentation or abnormal flood damage to infrastructure – the Commission can request a supplemental appropriation. Again, Congress also has always provided this.

There is no cost recovery for O&M from beneficiaries of the Mississippi River and Tributaries Project, which is still ongoing and applies to the main Mississippi River channel. However, any new projects developed other than for navigation require 50% local capital funding, and 100% local O&M funding. For navigation, there is a surcharge on fuel used by tow boats (the main commercial traffic that moves barges), and this goes into a special account, which is overseen by a separate executive group. Although this account could be used for dredging, it has historically been used either for maintenance of existing locks or construction of replacement locks and dams.

5.3 Tennessee Valley Authority, USA

Organization and Mandate

The Tennessee Valley Authority (TVA) is a USA Federal Government corporation. It was founded to help economic recovery in the Tennessee Valley in the 1930s, and much of its focus has been on development and management of energy supply. Later on, its mandate broadened to include flood control, navigation, recreation and water quality. Most recently, TVA has become self-financing – from power revenues – and no longer requires Federal Government financing, except for specialized economic development initiatives.

Funding, Contracting, and Cost Recovery

TVA has built a number of different types of flood control projects over the years. Federal appropriations have always paid the initial costs. Once completed, ownership of the local projects has been transferred to a local entity to operate and maintain. Even so, annual costs have come from local general revenues.

TVA does not charge for navigational use of its waterways. However there is a Federal fuel tax for commercial navigation. Proceeds from this tax go into a National Waterways Users Trust Fund to pay for future capital projects on the inland waterway system.

One interesting experience of TVA is with the use of Trust Funds for certain local projects. This process essentially folds the first two or three years of operation into the initial cost. During this period, operation of the project is confirmed and some experience is gained on actual operating costs. These few years can be invaluable in demonstrating to local shareholders what they can expect from the project. Concurrently, this period is used to finalize initial funding plans for future O&M.

5.4 Grand River Conservation Authority, Canada

Organization and Mandate

The Conservation Authorities Act of the Province of Ontario is legislation that addresses land-use practices and flood control measures by incorporating watershed-based resource management planning and flood control measures into provincial and municipal (local) government planning. The legislation recognizes that only a watershed-wide organization can respond to natural resources challenges that cross political boundaries. The Grand River Conservation Authority – formed under this legislation - manages land and water resources in the Grand River watershed,

which covers an area of about 6,000 square kilometres with a population of about 750,000. The Authority is composed of members from each municipality in the watershed. The Authority sets policy, develops plans, prepares budgets, arranges financing, and collects fees in partnership with its member municipalities – who each have appointed representation in the Authority - and the Provincial Government of Ontario. A primary goal of the Authority is to reduce flood risk. This is accomplished through river channel improvements, dyking, bank stabilization, flood proofing, and purchase of flood-vulnerable lands. For flood control issues, the Authority is staffed by a variety of professionals, whose responsibility includes identification and planning for flood control works.

Funding, Contracting, and Cost Recovery
New projects are funded 50% by the Provincial Government, 40% directly by the involved Municipalities, and 10% through a levy from the Authority. Operation and maintenance is budgeted annually based on precedent, known conditions and surveys as required. It is funded 50% by the Authority, and 50% by the Provincial Government. Detailed design and construction work is normally contracted out.

5.5 Santa Cruz County Flood Control District, USA

Organization and Mandate
Flood control work in the State of California is governed by the California Water Code, and controlled by elected Boards of Supervisors in each county (local government). The Board of Supervisors for Santa Cruz County governs the County unincorporated area, and is the executive and legislative governing body of the County of Santa Cruz. The Board directs overall operations of various county departments and districts by establishing policies and approving the budgets and financing for all of County government and certain special districts. One such special district – for Flood Control - is responsible for developing and maintaining flood control and drainage in populated areas. (The Public Works Department of the County handles rural areas.) The Board of Supervisors directs Flood Control District activities, but each District has representation on the Board for issues related to their District.

NOTE: Relative to the KK project, the geographic size of projects is small in Santa Cruz County; they are responsible for intensive maintenance of about 20 km of channel.

Funding, Contracting, and Cost Recovery
Due to historical changes in legislation, and to diminishing government budgets, the Districts fund flood control works in a variety of ways:

- For long-established areas, by collecting taxes specifically for flood control and drainage improvements (this is not allowed for new developments under current legislation);
- For new developments, by collecting a fee on an improved unit area basis;
- For land use within a watershed, by collecting fees based on how the land is used; this is also on a unit area basis, except for housing, which is charged a flat fee, and
- For general O&M, by receiving part of county-wide taxes designated on a percentage basis for addressing watershed issues such as stream improvements.

REFERENCES

ADB, 1996: *"Towards Effective Water Policy in the Asian and Pacific Region"*, May 1996.

BWDB, 1993: *"Northeast Water Management Project (FAP 6): Northeast Regional Water Management Plan"*, September 1993.

OECD/DAC, *1994: "Contributing to Sustainable Development: DAC Orientations for Donor Assistance to Capacity Development in Environment"*, 1994.

UNDP, 1994: *"Capacity Development: Lessons from Experience and Guiding Principles"*, December, 1994.

GOB/CIDA, 1997: "Seminar on Kalni-Kushiyara River Management Project", Dhaka 8-9 December, 1997, Summary of Proceedings and Annexes.

KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT FEASIBILITY STUDY

ANNEX K
THE O & M PHASE: INSTITUTIONAL ARRANGEMENTS AND COST RECOVERY
APPENDIX K.1

MODEL FOR THE KKRMP'S STRATEGIC CAPACITY DEVELOPMENT

March 1998

TABLE OF CONTENTS

1. METHODOLOGY FOR STRATEGIC CAPACITY DEVELOPMENT

1.1 The Model

Figure 1 provides a model for the KKRMP's capacity development. It incorporates the principles presented in Section 4.3 of Annex K. It illustrates influence from the Bangladesh macro socioeconomic context, the regulatory environment and organizational networks. More specific influence is exerted from national development priorities and the priorities of the Kalni-Kushiyara River Basin with its history of pre-monsoon flash flooding that too often destroys the one possible rice crop each year. Alleviating these problems in the region is the general objective of the KKRMP.

In this model, the KKRMP's internal long, medium and annual strategic planning systems translate capacity development priorities into annual work plans. Management and implementation is directed by the priorities for the KKRMP as a whole, which by definition must be the priorities of individual managers.

Monthly financial reports, quarterly and annual progress reports and reviews of capacity development based on indicators in work plans, provide feedback for adjustments in subsequent work plans and for steering committee approvals and allocations of resources to capacity development.

The KKRMP's capacity development component is indicated by the shaded areas that are behind and supporting each of the planning, management, implementation and reporting elements of the strategic process. The KKRMP's role is shown as phasing out, to a point where the results and benefits of the KKRMP's support for capacity development are eventually being sustained primarily by government, community and other organizations at various levels.

2. ITERATIVE CAPACITY DEVELOPMENT PROCESS

2.1 Iterative Capacity Development Process

The KKRMP will support capacity development over a wide range of organizations. Plans for effective capacity development will not be "blue-prints" but guides for exploratory implementation from which experience will improve planning and implementation. The initial overall plan for capacity development will be adjusted annually. The inception report would include a capacity development component in the first annual work plan and a detailed first quarter plan. Quarterly implementation experience with capacity development would enable appropriate refinements in subsequent quarterly and annual plans and implementation. The various steps involved in this iterative capacity development process include:

Step 1. establish a team approach in the KKRMP organization, including concepts and processes;

Step 2. preparation for stakeholder ownership or responsibilities, such as beneficiaries of village platforms or agencies responsible for impact monitoring, as early as possible;

Step 3. preliminary priority setting for important options which involve stakeholder participation such as labour or collection of fees during O&M;

Step 4. preliminary analysis of the feasibility of various options;

Step 5. confirmation and approval of priorities through participatory review of the results obtained in Step 4;

Step 6. detailed planning for each approved priority, with results indicators and budgets;

Step 7. approval of plans and resources from the KKRMP and stakeholders for implementation or more planning;

Step 8. iterative implementation: plan, implement, assess, report;

Step 9. quarterly and annual reporting and reviews on overall and specific CD results;

Step 10. adjustments in annual and quarterly plans for overall and specific CD;

Step 11. annual and quarterly approvals and resource allocation, and

Step 12. continued iterative implementation of approved CD.

Some of the steps of the iterative process are discussed in more detail below.

2.2 Priority Setting

Participatory methods of priority setting (Steps 3 and 5) are important for all the reasons provided above. There are various methods available. However, only one is discussed here. It can meet the need for efficiency, transparency and consensus. It has been used effectively with stakeholders in capacity development. Generally the approach is iterative. After discussing the options under consideration and establishing criteria for ranking priorities, individuals provide their own rankings, in confidence, of the priority of each option. Rankings are simply added for efficiency and the resulting rank order is discussed. Reasons for high or low rankings are discussed. Having seen the rankings of their peers as a group and heard discussion, individuals rank the options again. Feed back of group rankings and justifications for high and low rankings is repeated and followed again by a third ranking by each individual. Experience has indicated that the ranking of the group will converge towards consensus. If time is short, the results of 2 iterations may be accepted by the group members as representing their consensus. Three iterations will show even greater consensus among the group and increase their acceptance of rankings to help determine resource allocations for capacity development work.

Priority setting is required initially to establish "preliminary" priorities (Step 3). These are useful in deciding on investments of time and other resources in clarifying those priorities that are complex and not well understood. Such clarification can be obtained with feasibility analysis as described below. It should add information about scope, difficulties and estimated costs of complex options.

Confirming priorities (Step 5) requires providing stakeholders with the results of feasibility analysis and then repeating the discussion and priority setting process.

2.3 Preliminary Feasibility Analyses

Feasibility analyses (Step 4) is usually needed for each complex capacity development option to confirm:

- expected capacity results in terms of improved achievement of objectives and priorities;
- constraints to developing the expected capacities;
- how realistic and practical it will be to achieve the results;
- any needs for further planning before implementation, and
- rough estimates of resource requirements from stakeholders and the KKRMP.

Ownership and commitment by stakeholders, and validity of analyses are promoted when they are involved in feasibility analyses and detailed planning for capacity development. If possible, stakeholders should carry out most of these activities with the support of appropriately qualified outside facilitators. But many stakeholders, even with outside help will not have time to do analysis. Options for maximizing their participation include extending analyses over time to fit it in with other priorities; using early morning, noon-hour, after hours, week-end work sessions, retreats, fax, e-mail and conference calls.

But as a minimum, stakeholders should:

- receive oral and written briefing on analyses;
- identify relevant issues;
- provide suggestions for the analyses;
- review, comment on and "approve" results;
- where necessary, adjust priorities, and
- direct allocation of resources for detailed planning and implementation.

Stakeholder involvement improves their capability to direct or conduct such analyses in the future.

The *Feasibility Analysis Guide*, shown in Table 1 provides step by step suggestions for clarifying each Preliminary Priority in terms of what would be involved in its implementation. It is intended to be applied flexibly for one Preliminary Capacity Development Priority at a time.

2.4 Detailed Planning for Capacity Development Work and Financing

Following confirmation of capacity development priorities and allocation of resources to them, implementation of some of them may be able to proceed based on stakeholders and the KKRMP staff understanding of them as well as feasibility or other analysis and planning already completed. However, capacity development priorities that are complex will require further detailed consultations, capacity assessments and planning to systematically identify their objectives, expected results and the actions needed to achieve them. This includes work planning of who will do what, when and at what cost. It also requires financial planning of the costs of people's services, supporting resources, equipment, materials and so on. The involvement of stakeholders is critical for their understanding and ownership of these processes and to provide added validity to analyses. For complex capacity development, like that of establishing a River Basin Authority, or institutionalizing systems for continuous enhanced dredging, capacity development planning could require a year or more.

The *Detailed Planning Guide* (DPG) shown in Table 2 is designed to support detailed analysis and planning of institutional development or capacity development priorities. It is presented here as part of the recommended overall capacity development process for the KKRMP at the initial stage of the intervention.

The following suggestions will help in using the *Detailed Planning Guide*:

1. Be flexible in applying the guide, aim at effectiveness and efficiency.

2. Do not expect analyses and planning to proceed only in sequence from Items 1 to 8 (DPG). Insights and results gained in any steps may help in others. SWOT (Item 4) and identification of activities and milestones (Item 5) may help to verify or revise analyses in Items 1 to 3.

3 Experience with implementation itself will be valuable in adjusting the analysis and planning for capacity development implementation. Iterations of planning and implementation are recommended.

4. Different people or groups may be assessing *and p*lanning different capacity development priorities. If results are to be rolled-up or aggregated into one overall work plan and budget, then it will be necessary to agree on appropriate formats for Work Plans (Item 7) and for Financial Plans (Item 8).

5. For very complex capacity development activities, planning itself may need to be costed, proposed, and have resources approved before it can proceed. As already suggested, capacity development planning for some form of new regional river basin authority to coordinate the various responsible organizations and groups at national, district and community level who have a stake in the maintenance and protection of the river channel, its levees, the platforms for crops and settlements.

Table 1: Feasibility Analysis Guide

This is a guide for briefly assessing the feasibility of developing the capacities initially identified as priorities for achieving the KKRMP objectives/outputs. It should clarify scope, constraints, feasibility and estimated costs. Results will help to decide if this capacity development priority justifies further investment in its detailed planning and implementation. Use other pages if necessary.

CD Priority: # ___; Name the Capacity: _____

1. Clarify Results: If this capacity is developed, what could be achieved that can not be achieved now?
_____

2. Breakdown the capacity into its major components if needed (eg: Planning: 1. Data collection; 2. Analyses; 3. Design.)
Components: 1._____2._____3._____.

3. SWOT: identify strengths, weaknesses, opportunities and threats/constraints, for each capacity or component in relation to:
1. the current level of this capacity and what is necessary and sufficient for the capacity result needed in the KKRMP;
2. external factors (legal, regulatory, political, organizational networks, users); and
3. internal factors (structure, systems, personnel management, technology, accountability, expertise).

Capacity/Components	Strengths	Weaknesses	Opportunities	Threats
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____

4. Activities: from the SWOT analyses, what activities are needed to develop the expected capacity?

Capacity/Components	Activity 1	Activity 2	Activity 3	Activity 4
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____

5. Flag Insurmountable Problems: Throughout the analysis consider if any activities are impossible or if any constraints can not be overcome. If NOT impossible, continue. If IMPOSSIBLE stop. List the reasons for continuing or stopping.
Feasible? Yes ____ No ____. Reasons: _____

6. If Item 5 is "Yes", Estimate Resources needed, Costs, Expertise, People, Time required.
People and Expertise:

KKRMP Staff_____ Person-months_____ Costs_____
Other Expenses_____ Costs_____
Total KKRMP Costs_____

Stakeholders or Other People/Expertise:_____ Person-months_____ Costs_____
Other Expenses_____ Costs_____
Total Stakeholder Costs_____

Other Resources: (Specify)_____ Costs_____
Total Other Costs_____

Estimated date for when the capacity result is likely to be achieved: (person-months/year)_____

Table 2: Detailed Planning Guide

KKRMP Capacity Development **DETAILED PLANNING GUIDE** **Use other sheets as necessary.**
CD Priority: # ___; Capacity Description: _____

1. Clarify Results: If stakeholders develop this capacity, what improvement will result, related to the KKRMP priorities?

_____

2. Components: Break down the capacity into manageable parts, e.g.: Planning could be: 1. Data collection; 2. Analyses; 3.Design. Components themselves may require further reduction into smaller elements.
Components.1._____2._____3._____4._____
5._____6. _____7. ___ _____8._____

3. Standard: for each capacity and each of its components or smaller elements, define a "standard" of level and quality that would be necessary and sufficient for performance to be effectively improved and sustained in relation to the KKRMP priorities.

Capacity/Components/Elements	Standards
1.	
2.	
3.....	

4. SWOT: analyze each capacity/component/element in relation to the above "Standard". Considering external factors (legal, regulatory, organizational networks, users) and internal factors (organizational structure, functions, systems, personnel management, management capacities, technology, rewards/incentives, salary/benefits, recruiting practices, productivity). The involvement in SWOT analyses of stakeholders improves ownership and validity of results.

Capacity/Components/Elements	Strengths	Weaknesses	Opportunities	Threats/constraints
1.				
2.				
3.....				

5. Activities, milestones: for each capacity/component/element describe the activities necessary for its strengthening to attain the "standard" and maintain it as independently as possible. From the SWOT analyses what needs to be done to reach the capacity "standard". Identify key activities as "milestones" of progress.

Capacity/Components/Elements - the Standards	Activities Required	(✓) Milestones
1.		
2.		
3.....		

6. Indicators: Identify objectively verifiable indicators of results in achieving capacity standards for major capacities and components. Indicators should be **qualified, quantified** and **dated.** Identify the **sources** (locations) of information on indicators and the **data collection** systems or data bases that need to be established. Indicators represent results, while milestones represent activities.

Capacity/Component	Indicator Qualified	Quantified	Planned Date	Source	Data Collection
1.					
2.					
3.....					

Table 2: Detailed Planning Guide (Cont'd)

7. Work Plan (Estimate person-day requirements. Devise a monthly or quarterly format to suit your analysis.)

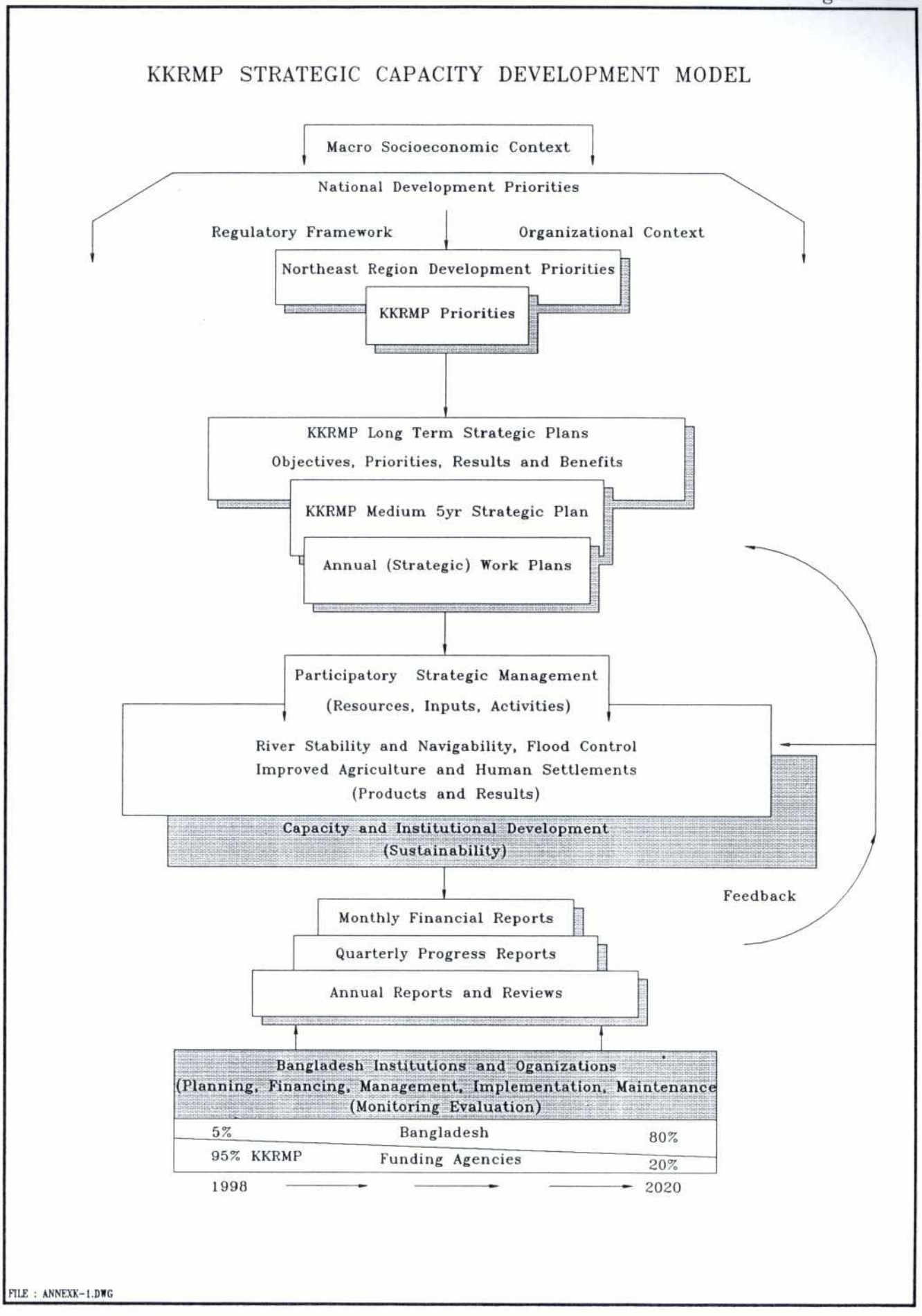
Capacity/Component Activities	Person or Group Responsible	Person days Year 1											Year 2										
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1.																									
2.																									
3.....																									

8. Financial Plan: Using the above Work Plan, prepare a budget covering staff salaries, outside consultant fees, travel and other expenses as required. It should distinguish source of funds whether KKRMP, donors, GOB or other stakeholders. Include a schedule of required disbursements. Include construction, rehabilitation, equipment, material and other needs. Use a structure consistent with the KKRMP budget breakdown.

Particulars	GOB	KKRMP	Other	Total Cost	Disbursement Schedule by Quarter April '98-'99 1 2 3 4	April '99-'00 1 2 3 4
- Salaries - staff						
- Fees - local consultants						
- technical assistance						
- Travel						
- Hotel/Accommodation						
- Construction/rehabilitation						
- Meals + Allowance						
- Materials						
- Equipment						
- Other						

FIGURE

Figure K.1


KKRMP STRATEGIC CAPACITY DEVELOPMENT MODEL
Macro Socioeconomic Context
National Development Priorities
Regulatory Framework
Organizational Context
Northeast Region Development Priorities
KKRMP Priorities
KKRMP Long Term Strategic Plans
Objectives, Priorities, Results and Benefits
KKRMP Medium 5yr Strategic Plan
Annual (Strategic) Work Plans
Participatory Strategic Management
(Resources, Inputs, Activities)
River Stability and Navigability, Flood Control
Improved Agriculture and Human Settlements
(Products and Results)
Capacity and Institutional Development
(Sustainability)
Feedback
Monthly Financial Reports
Quarterly Progress Reports
Annual Reports and Reviews
Bangladesh Institutions and Oganizations
(Planning, Financing, Management, Implementation, Maintenance
(Monitoring Evaluation)
5%
Bangladesh
80%
95% KKRMP
Funding Agencies
20%
1998
2020
FILE : ANNEXK-1.DWG

KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT FEASIBILITY STUDY

ANNEX K
THE O & M PHASE: INSTITUTIONAL ARRANGEMENTS AND COST RECOVERY
APPENDIX K.2

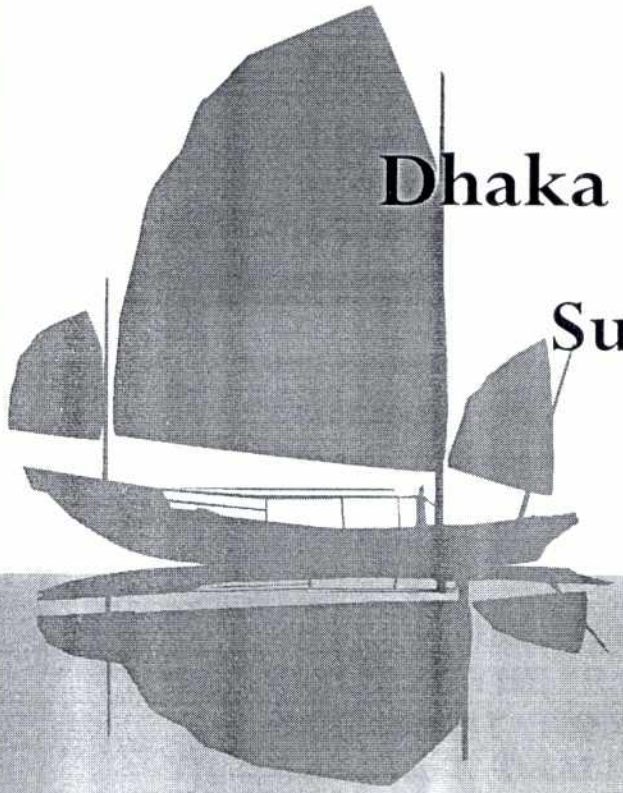
SUMMARY PROCEEDINGS SEMINAR ON KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT

March 1998

SEMINAR ON KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT

Dhaka 8 -9 December, 1997

Summary of Proceedings



- CONTENTS -

ANNEXES

List of Abbreviations

ADB	Asian Development Bank
BCAS	Bangladesh Centre for Advanced Studies
BIDS	Bangladesh Institute of Development Studies
BIWTA	Bangladesh Inland Water Transport Authority
BUET	Bangladesh University of Engineering & Technology
BWDB	Bangladesh Water Development Board
CIDA	Canadian International Development Agency
DAE	Department of Agricultural Extension
DOE	Department of Environment
DOF	Department of Fisheries
DPHE	Department of Public Health Engineering
ERD	Economic Relations Division
EU	European Union
FAO	Food & Agriculture Organisation
IFAD	International Fund for Agricultural Development
IMED	Implementation, Monitoring & Evaluation Division
JICA	Japan International Cooperation Agency
KKRMP	Kalni Kushiyara River Management Project
LGED	Local Government & Engineering Department
LGRD&C	Local Government Rural Development & Cooperatives
MOF&L	Ministry of Fisheries & Livestock
MOWR	Minister of Water Resources
NBR	National Board of Revenue
NERP	Northeast Regional Project
PP	Project Proforma
SCD	Seed Certification Department
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WARPO	Water Resources Planning Organisation
WFP	World Food Programme
WB	World Bank

1. SEMINAR HIGHLIGHTS

- The participants were from a wide variety of governmental departments/agencies and non-governmental organisations/institutions, reinforcing the fact that it is a multi-faceted project requiring the involvement of many parties.

- The donors are keen to help but want assurances of sustainability and participation of all stakeholders, while the GOB recognises the responsibility of the Government and the beneficiaries to ensure project sustainability.

- Both interest and concern was manifested regarding the social, economic and environmental impacts of the project.

- According to the participants, the key principles that would serve to guide cost recovery are the following: an integrated approach and improved coordination; participation and a sense of ownership by the beneficiaries; appropriate legislation in order to ensure payments; transparency and accountability; and finally, political will and commitment;

- The following criteria for ensuring effectiveness of the Operation and Maintenance (O&M) phase of the project were underscored: the need for administrative and technical linkages - both horizontal (multi-sector) and vertical (local, regional and national); coordinated work distribution; independent control of management over resources and revenue; and lastly, beneficiary awareness, public accountability and political will.

- There was consensus on many components of how to develop and implement cost recovery, namely: the need to establish laws and regulations (whether new or improved); there was support for fees, levies and taxes in order to ensure sustainability; the need for political will; the beneficiaries need to be made aware of the project and participate in its design and implementation.

- There was agreement on the following elements to include in a model for the governance structure: a steering committee; representation from all relevant GOB sectors; a project implementation office; a lead agency; district level offices; beneficiary representation and NGOs; autonomous decision-making; any funds collected should return to the project structure.

- There was, however, divergence between GOB and the ADB on the type of institutional structure required during the O&M Phase of the Project to ensure sustainability. The ADB representative stated that the project requires a new policy and institutional arrangement for the O&M Phase, including O&M cost recovery that would ensure sustainability of the Project. On the other hand, the position of GOB was that the O&M Phase activities could be managed through existing institutional arrangements.

- Key actions to move the agenda forward include: recommendations should be made to GOB for policy decisions regarding the implementation phase of the project; existing structures should be augmented rather than discarded and to begin to do this, a study of the recent experiments of the Water Board in multi-sectoral projects needs to be undertaken; and finally, dredging should be contracted out.

2. BACKGROUND ON THE PROJECT

The Kalni-Kushiyara River Management Project (KKRMP) is an outcome of the Flood Action Plan. A feasibility study was completed recently and the Asian Development Bank and the Canadian International Development Agency have agreed in principle to fund its implementation.

- **The Project Area** is in Northeast Bangladesh. It covers 335,600 ha and extends over the districts of Sylhet, Sunamganj, Moulvibazar, Habiganj and Kishoreganj. Approximately 80% of the land is two to six metres above sea level. During the monsoon period, about 96% of the area remains under water. In 1995 the population was estimated at 1.89 million, with 90% living in the rural areas. It is one of the poorest areas of Bangladesh, with 65% of the population below the absolute poverty level.

The Kalni-Kushiyara River system is the life-line of the people, the resource base for their livelihood and the vehicle for their survival. Agriculture, fisheries, transportation, and the region's environmental sustainability are all dependent on the hydrological and geomorphic characteristics of this system. At the same time, most of the problems faced by the people are inextricably linked to the changes in the river's hydrological regime.

- **Problems and Issues:** A major avulsion of the Kushiyara caused by natural and man-made interventions 30-40 years ago has led to large-scale on-going sedimentation and instability. This, in turn, has led to widespread over bank spill, breaches in the river banks, channel shifts and increased pre-monsoon flooding. These events have reduced crop yields, silted-up productive agricultural lands, eroded settlements, impaired navigation in the dry season and contributed to the loss of valuable fisheries habitat. Without a comprehensive river stabilization program, the pattern of flooding, delay in post-monsoon drainage, channel shifts, erosion and sedimentation will continue and the resulting damage will worsen.

- **Project Objectives:** the KKRMP has been designed to:

  - improve river stability and provide a more stable environment for development;
  - reduce damage to agriculture by reducing pre-monsoon floods and improving post-monsoon drainage;
  - improve living conditions by reducing erosion damage to villages and by creating new flood-free village platform; and
  - improve river navigation during the dry season.

- **Project Initiatives**: river stabilization and flood control works, navigation channel improvements, village homestead platforms, and implementation of an Environmental Management Plan will be undertaken over a 168 km reach of the river.

3. SEMINAR OBJECTIVES

1. **To present the project, highlighting its multi-sectoral nature and placing emphasis on the issues of institutional arrangements during implementation and operation and maintenance (O&M) phase and O&M cost recovery.**

2. **To seek input from the participants on the preferable institutional arrangements for the implementation and O&M phase.**

3. **To seek input from the participants on possible O&M cost recovery sources.**

The sponsors of the seminar concluded that it should take place at this time owing to the following: (a) the critical link between capital funding and project sustainability, which will require a framework on O&M and organizational structure which has the support of the Government of Bangladesh and donors; (b) the on-going discussions which have been held between the Government and donors on key issues; (c) the emerging support for the consideration of new approaches to O&M funding and a capacity building structure; and (d) the need for an agreement on the principles of an approach which serves the scope of interest of both the Government and donors, and which will guide the detailed work on implementation of the KKRMP.

4. SETTING AND PARTICIPANTS

The seminar was held on 8-9 December 1997 at the Local Government Engineering Department, Dhaka.

The Government of Bangladesh was represented by officials from the Ministry of Water Resources, Land, Fisheries and Livestock, Finance, Environment and Forestry, Local Government, Agriculture, Shipping, ERD, Planning Commission and NBR, as well as members of Parliament. The donor group was represented by the ADB, CIDA, EU, FAO, IFAD, JICA, UNDP, USAID, WFP, and World Bank. Other organizations present included: BUET, BCAS, BIDS, NERP and WARPO.

In all more than 90 people attended the event, with almost 125 people present for the Inaugural Session. (See Annex A for the list of participants).

5. SPONSORSHIP, ORGANIZATION & AGENDA

The KKRMP Seminar was sponsored by the:

- Government of Bangladesh
- Canadian International Development Agency

And organized by the:

- Bangladesh Water Development Board (BWDB)
- Water Resources Planning Organization (WARPO)
- North East Regional Project (NERP)

The agenda for the two days is presented in Annex B and is summarized in the following table.

Agenda - Day One	Agenda - Day Two
1. Inaugural Session 2. Business Session - 1A Status and Outlook & Question/Answer Session 3. Business Session - 1B Criteria for Success & Question/Answer Session	1. Business Session - 2A 1.1 Building for Framework and Implementation 1.2 Workshop 1: Operation & Maintenance Financing 1.3 Workshop 2: Governance structure 2. Business Session - 2B Recommendations on Framework Building 3. Wrap-up session

6. QUOTES FROM GUEST SPEAKERS AT THE INAUGURAL SESSION *(See Annex C for full texts)*

Welcome Address, Charly F. Cadou, Team Leader, NERP

"The primary purpose of this seminar is to create a shared understanding of the criteria required to ensure the success of this multi-sectoral project."

"The project has been designed to meet multiple objectives - improve river stability, reduce damage to agriculture, improve living conditions and navigation."

"The first topic we wish to address in this seminar is to identify the likely sources of cost recovery to finance operation and maintenance, and to develop a strategy for implementation."

"The second topic is to outline the institutional framework which will ensure the sustainability of the project."

John F. Brooks, Officer in Charge, Bangladesh Resident Mission, Asian Development Bank

"Based on the Government's water and flood management strategy, the Bank's portfolio of ongoing and programmed projects focusses on the preparation of an integrated national water management plan and institutional development."

"Under this strategy, the Bank attaches increasing importance to sustainability, and the cost recovery of operations and maintenance in particular."

"The Bank is keen to help, but while the next programming mission in February 1998 will explore possible cofinancing with Canada, we are unable to yet make any firm commitment to the Project, especially in the absence of a firm understanding on operations and

Special Guest, HE the High Commissioner of Canada, Mr Nicholas Etheridge

"If Canada and Bangladesh have anything in common, it is the need to manage water resources properly."

".....Canada has acquired sufficient expertise and financial resources to address our needs - to manage our river systems ..... It is natural, then, that we have decided to direct some of the human and financial resources of our aid program towards Bangladsh's efforts to address its own water management needs."

"Canada actively seeks, and very much values, coordination with other donors. We also value the participation of ordinary Bangladeshis who will be affected in both the planning and implementation."

"In our view the development of the Kalni-Kushiyara and other river systems simply cannot be done without close coordination among all the stakeholders."

"To commit the required resources, Canada and the Asian Development Bank are both seeking assurances of sustainability."

Special Guest, State Minister for Planning, Civil Aviation and Tourism, Dr Muhiuddin Khan Alamgir

"....GOB recognises the need for involvement of the impacted people at all stages of project development from project identification through O & M, so that beneficiaries get sense of ownership ...."

"The KKRMP project by its nature is a multi-sectoral project where several ministries and agencies will be involved for its implementation and O & M."

"For successful implementation, operation and maintenance as well as cost recovery, we will need an appropriate institution."

Chief Guest, Minister for Water Resources, Mr Abdur Razzak

"The Kalni-Kushiyara River Management Project is challenging and innovative and addresses key issues that are considered critical in water management project."

"I will request the distinguished participants to discuss the issues in depth and help us in formulating a framework for the implementation and operation and maintenance of the project."

"I have come to know that the Kalni-Kushiyara River Mnagement Project is already in the pipeline of CIDA and ADB. I feel extremely happy about this and request our development partners to implement the project as soon as possible to redress the sufferings of the hoar community."

Chairman of the Session and Secretary, Ministry of Water Resources, Mr Shamsul Huda

"The Seminar signals the beginning of the process of long-awaited project preparation which when completed will vastly improve the environment and quality of life of about 1.90 million people."

"In as much as we express our gratitude to the Canadian Government for having financed the cost of initial study and pilot activities, and to both Canada and Asian Development Bank for having agreed to finance the investment part, the task before the Bangladesh Government and the project beneficiaries is to ensure project sustainability."

"The basic question boils down to the willingness of the beneficiaries to pay for the maintenance so that the benefit generated can be sustained through proper operation and maintenance."

"In the past, the BWDB has ignored this issue; but the time has come when this needs to be discussed and sorted out."

DAY 1, BUSINESS SESSION 1 A: KKRMP - STATUS AND OUTLOOK

7. Presentation I: "Kalni-Kushiyara River Management Project"

By Mr Mahbub Ali, NERP *(See Annex D for full text)*

A presentation was given on the KKRMP feasibility study in order to ensure a common understanding of the project and of the aims, objectives, approach, findings and key conclusions of the study. The seminar results will be integrated into the final report of the feasibility study. The presentation covered the following broad areas :

✓	Overview of the Project Area	✓	Project Impacts
✓	Problems and Issues	✓	Project Assessment
✓	Trends	✓	Project Implementation
✓	Objectives	✓	Conclusions and Recommendations

A. Key Points

- The project area accounts for 2.3 % of Bangladesh (335,600 ha; about 14 % of NERP);
- Population is only 1.6 % of the national total as the land is of low elevation, and 96 % remains under water during monsoons;
- The region is one of the poorest of the country with high income inequality;
- Agriculture is the main occupation with winter crop (Boro) being the main crop;
- High quality fisheries habitat and fishing is the only source of income for the landless people in the monsoon season;
- River transportation is the major means of access to the area; goods transportation also provides employment;
- Existing river management projects provide partial mitigation to only 55,000 ha;
- The river experienced rapid channel sedimentation and instability resulting in over bank spills, riverbank breaches, and damage to boro crops and settlements.
- The scenario without the project would be as follows:
  - Increase in average bed level;
  - Spills, bank breaching and bank erosion to continue causing more areas to be inundated;
  - Water transportation affected;
  - Population will increase from 1.89 m (1995) to 2.88 m (2016) resulting in increased landlessness;
- The project is designed to mitigate the above mentioned multiple objectives by improving river stability, reducing damage to agriculture, improving living conditions, creating flood-free homestead platforms and improving navigation;
- Positive impacts on agriculture, fisheries, navigation and socio-economic infrastructure;
- Beneficial impact on agricultural sector: 79%; socio-economic infrastructure: 9.6%; fisheries: 6.9%; navigation: 4.5%;

- External support phased out after seven years of preconstruction and construction of physical works;
- O/M phase (Years 8 to 30) to be taken charge of by Bangladeshi stakeholders;
- Timely implementation, careful monitoring, integrated and participatory approach, and firm fiscal and institutional responsibilities recommended.

B. Question & Answer Session

Q1. Is dredging the only method of removing siltation from river bed?

A1. Yes, as other kinds of interventions (i.e. building structures) will affect navigation.

Q2. Do the existing river training works in the region fall under the scope of the proposed river training of this project?

A2. No.

Q3. Is it possible to trap the silt in the depressions or "hoars" so that downstream siltation can be minimized?

A3. Dredged spoil cannot be used to fill up "hoars" as it will affect the fishery sector.

Q4. Did the study consider the environmental impacts of dredging?

A4. The pilot dredging project showed a very localized and a short-term impact.

Q5. Who will bear the cost of the maintenance dredging - the government or the beneficiaries? If both, what would be the ratio of cost sharing? How will you ensure the collection from the beneficiaries?

A5. The feasibility study has identified some possible sources of cost recovery and one of the objectives of this seminar is to explore the other possibilities.

Q6. Is there any provision for the protection of villages from wave erosion?

A6. Villages vulnerable to wave erosion will be protected with hard protection measures like boulders, and the less vulnerable ones with traditional methods using sharbs, grass and water tolerant trees.

C. Comments and observations

Experience has shown difficulty in effective coordination even between two agencies. How then can we expect coordination between *several* institutions as suggested in the study? (No reply was given.)

The facilitator rounded off the morning session by highlighting the fact that the Question & Answer Session reflected tremendous scope of interest, the urgency of the issue and the need for many parties to participate in the implementation of the project. It also underscored the importance of the financial and structural issues in order to move ahead with the project.

DAY 1: BUSINESS SESSION 1B: CRITERIA FOR SUCCESS

8. Presentation 2: "Multi-sectoral Project Management and O & M Concepts" By Mr. Charly F. Cadou, NERP Project Team Leader (*See Annex E for full text)*

The highlights of the NERP Team Leader's presentation included issues to be addressed by during the seminar, as well as general issues and concerns.

A. Issues to be addressed during the Seminar

- The critical link between capital funding of the KKRMP and project sustainability;
- The emerging support for new approaches to O & M funding and capacity building structure;
- The need to agree on principles of an approach which serve the interest of GOB and donors, and which will guide the detailed work of the KKRMP implementation.

B. Issues and Concerns

- **O & M Cost Recovery:**
  - track record;
  - requirement for sustainability;
  - integrated revenue strategy;
  - ensure revenues are credited;
  - ensure funding & expenditures are transparent;
  - ensure that expenditures are used for intended purposes.

- **Institutional Framework Requirements:**
  - ability to deliver a coordinated effort - dredging, platforms, breaches, etc.;
  - strong center of integration: bottom-up and top-down;
  - ability to maintain independent financing;
  - ability to manage an integrated revenue strategy;
  - links to all levels: local, regional and national.

C. Question & Answer Session/Comments & Observations

Q1. What if the Government backs out in the middle of the project period after initially agreeing to implement the project?

Q2. Sometimes the Government agrees to finance a project but the money available or offered is far from adequate.

Q3. Terms and conditions set out by the donors should be less stringent in order to serve the interest of GOB.

Q4. For sustainability, benchmark studies are required in order to move forward to further development work.

Q5. It would be interesting to share the experiences and approaches adopted by other countries in respect to O & M funding.

Q6. The primary stakeholders or beneficiaries should be consulted with respect to cost recovery.

Q7. In the backdrop of poor track records of water sector projects in the past, in terms of O & M and cost recovery, how do you ensure the feasibility of this project?

Instead of addressing each comment and question individually, the facilitator assured the group that the views and apprehensions expressed would be explored and discussed during the course of the day's proceedings. He noted that it was anticipated that the upcoming discussions would reflect on past experiences, identify constraints, examine the lessons learned and shape the criteria for the future. He highlighted the fact that at the end of the day, only the approach that works and is acceptable to all parties will be recommended.

9. Presentation 3 : "Bangladesh Government Policy and Practice of Cost Recovery in Water Sector Projects"

By Shafi Uddin Ahmed, Addl. Chief Engineer, O & M, SRP, BWDB

(See Annex F for full text)

The presentation covered the following broad areas:

- Introduction
- Policy and law on cost recovery
- Results and lessons from previous experiences
- Present policy context
- Revised water rates concept
- Pilot project experience on cost recovery
- National seminar on cost recovery
- Awareness campaign
- Punitive measures against defaulters
- Alternative policy
- Strategy to application of law and rule
- Relevance to KKRMP

A. *Key Points*

- Chronic budget shortfalls for O&M have resulted in rapid deterioration of the infrastructures;
- Cost recovery is not a new concept: it started in 1963 and the latest published guidelines were made in 1995; water costs rated on the basis of O&M costs;
- The collection rate is very low and there is no mechanism to plough the collected water rates back into the system for O&M expenses;
- Complex interrelations exist between the objectives of the present O&M cost recovery system;
- There needs to be a revision of the assessment and collection principles in order to revise the water rate concept;
- Past attempts at imposition, assessment and collection of water rates were unsuccessful due to the absence of the participation of water users, poor O&M service and procedural complexities;
- The pilot experience in the Karnafuli Irrigation Project (KIP) has O&M service and a cost recovery mechanism (strengths and weaknesses were identified);
- A national seminar on cost recovery held in 1994 came with major conclusions based on the pilot KIP project results;
- A successful awareness campaign followed the national seminar;
- Implementation of the punitive measures against defaulters and solutions to problems was raised;
- An alternative water rate collection policy is being conceived but it is still at the idea and concept paper phase;
- The benefits of the application of the revised water rate concept and policy were underscored;
- KKRMP is a flood control & drainage (FCD) project and until now, the Government has not imposed any water rates in FCD projects.

B. *Question & Answer Session*

Q1. Why did the farmers/beneficiaries not pay in the past?

A1. They are interested in paying but they want to be assured of the appropriate benefits at the right time.

Q2. How can we expect the poverty stricken farmers to pay?

A2. Experience shows that the poor farmers pay while the rich ones do not. So penal actions are necessary .

Q 3. Why are the rich farmers not paying?

A3. The defaulting culture is to blame. Since no action is taken there is a general temptation not to pay. Political commitment and consensus are needed on this issue as opposition parties sometimes dissuade them from paying.

Q4. Why are we thinking of the concept of cost recovery when there is a history of poor cost recovery?

A4. The record of cost recovery is poor all over the world. But some of the responsibility should be transferred to the beneficiaries to give them a sense of ownership.

Q5. What approach can be adopted to ensure water rate collection?

A5. The Government has to enact rules and regulations in order to impose taxes or tolls on i.e. flood control initiatives, navigation, etc.

Q6. Is there a guarantee that water would be delivered if the rates are paid in advance as suggested? Instead of the full payment, could a certain percentage can be taken as advance?

A6. A good suggestion.

Q7. Why has there been a decrease in rate collection in the three-year pilot Karnaphuli Irrigation Project (KIP)? In this context how do you expect to collect O&M costs for KKRMP?

A7. It takes time to gather momentum and in the second year it reaches its peak. In the third year there is a downward trend as there is a tendency not to pay in the absence of penalties against defaulters.

Q8. How can we recover money from farmers who use their own pumps to irrigate?

A8. The pump owners would have to pay a license fee.

C. ***Comments & Observations:***

- Beels and hoars should be looked upon as conservation areas and not money-making entities;
- Toll collection may have an adverse effect in the price of fertilizer, agricultural production, etc.
- When implemented, the project may be able to provide transit to India from April to November (instead of only two months as at present) and thus should be incorporated into the Protocol with India;
- Indirect collection, like in the case of the Jamuna Bridge Project, may be considered.

In the light of the preceding Question & Answer Session, the participants were asked to identify the key principles that should shape or serve to guide cost recovery. The following

points were noted by the participants (which were later summarized by the facilitator) as the criteria for a successful cost recovery process.

D. CRITERIA FOR SUCCESS - COST RECOVERY *(See Annex G for full text)*

- Appropriate laws to implement the cost recovery elements of the project;
- Stakeholders and beneficiaries must be involved from the beginning. In particular, community-level institutions must be involved to build support and ownership, and to play an active role in implementation;
- Where appropriate, beneficiaries must receive the intended benefits on a timely and consistent basis in order to maintain credibility and willingness to pay;
- Cost sharing between parties, e.g. landowners, transportation operators, GOB, etc. must be based on benefits received as well as ability to pay;
- A political mandate and agenda is essential to implement the proposed cost recovery program and to build support for participation in costs at community levels;
- Both direct and indirect cost recovery should be considered;
- There must be transparency and accountability in expenditures - including use for intended purposes, e.g. dredging;
- Administration must be cost effective, feasible and practical.

10. <u>Presentation 4:</u> "Institutional Issues Relating to Implementation of Multi-sectoral Water Development Projects and Associated Problems"

By M.A. Mannan, Joint Chief (Irrigation), Planning Commission (see Annex H for full text)

The presentation covered the following broad areas:

- Inter-agency coordination
- Budgetary allocation and PP preparation
- Selection and fielding of consultantancy firms
- Environmental aspects
- Land acquisition
- Beneficiary consciousness
- Shortage of revenue budget
- People's participation
- Water user's association
- Issues and problems relating to KKRMP

A. Key Points

- The specific work program of a particular agency, if not timely taken up, will lead to delay in the execution of work of other agencies;
- Multi-sectoral components usually have their own project proformas for implementation and monitoring;
- Delay is often normal with the selection and fielding of consultants which ultimately leads to cost over-run, and consequently, the economic viability of the project;

- Environmental aspects should be given adequate consideration during the appraisal phase of the project;
- Activities falling under the responsibility of different agencies (e.g. land acquisition, resettlement plans, construction of rural roads, embankments, irrigation infrastructures etc.), need to be spelled out in clear terms;
- Beneficiaries need to be well informed about the project-related activities and responsibilities, and the management committee should be responsible for addressing conflicts which are likely to arise;
- Shortage of revenue budget results in difficulties of O&M;
- People's participation is important at all stages, particularly during formulation and implementation of guidelines;
- The Water User's Association should be involved in project planning and implementation.

B. Issues and problems relating to KKRMP include:

- Pre-monsoon and monsoon floods;
- Channel shifting, bank erosion, navigation;
- Institutional framework for projects management;
- Participation of beneficiaries in O&M.

Following the presentation, the participants were asked to identify the principal constraints in the effective operation of multi-sectoral projects like the one under discussion. The following points were noted (summarized later by the facilitator) as the criteria for the structure of an integrated approach in the O&M phase.

C. ***CRITERIA FOR STRUCTURE FOR O&M PHASE*** *(See Annex I for full text)*

- There must be a clear and visible organizational focus with the appropriate levels of independent resources, political will and public accountability;
- The work distribution of the responsible organizations needs to be set out, as does the critical path and schedule, e.g. dredging, platforms, breaches;
- Resources of each contributing organization must be designated to this structure;
- Horizontal (multi-sector) and vertical linkages (local, regional, national) are required with all appropriate parties so that there is a capacity to integrate top-down and bottom-up activities;
- There must be capacity to manage and coordinate an integrated revenue strategy appropriate at each level (national and local);
- The management structure and scale must be appropriate to the geographic scope of authority; i.e. national ministry versus thana;
- There must be a clear monitoring and feedback process supported by a management information system;
- The decision structure must be capable of competent decisions;
- The structure must be developed during the implementation phase.

DAY 2 : SESSION 2A
BUILDING THE FRAMEWORK FOR IMPLEMENTATION

11. WORKSHOP 1: O&M FINANCING

SEMINAR FORMAT: The participants were given an overhead presentation on cost recovery experiences in other countries, as well as an O&M cost recovery example showing what revenues might look like (*see Annex J*). A question and answer period followed. The seminar participants were then divided into six working groups, each of which was asked to address two questions:

1. **What improvements do you suggest to this framework for cost recovery? (shift in balance or weight/other elements/options/opportunities)**

2. **What are the key actions to initiate development and implementation of this approach to cost recovery.**

The integrated results of the working group discussions are summarized below.

A. Questions & Answers related to the slide presentation:

Q1. Is the flood control capital to be financed by the federal or local governments?

A1. A mixture of both.

Q2. Do commissions have their own authorities or do they fall under the government's authority?

A2. Some have their own authorities, some do not. Some have links to government, some to the Boards of Governors. The rates of recovery are dictated in some cases by those authorities, and then approved by the Board of Governors. Board members belong to other organizations. The BWDB representative noted that the GOB must make the decisions regarding passenger tariffs. Decisions cannot be taken in isolation. The NERP representative underscored the fact that rates are rarely taken unilaterally. The capacity of users to pay is considered.

Q3. How is the benefits mechanism to be monitored? (who will collect the monies coming in?)

A3. That depends on the structure. Funds could be generated through general taxation or through the generation of its own funds.

Q4. Are any elected or appointed officials on the governing boards?

A4. In some cases, they are involved at the municipal level i.e. the Grand River example. However, there exists a whole range of possibilities.

Q5. What is the role of the beneficiaries in the O&M financing?

A5. The people living in the watershed are the beneficiaries at the municipal level.

Q6. Is this a cost recovery method or a funding method?

A6. It is a method that is attempting to reduce risk and manage the resources.

Q7. Explain how the authority is composed. What is the liaison between the beneficiaries and the authorities?

A7. Not sure.

Q8. How do the people pay agricultural taxes? What is the basis for calculation?

A8. The estimated cost was divided by the land (hectares).

Q9. Clarify the situation with the Grand River Commission.

A9. The staff works directly for the Authority.

Q10. What is on the vertical axis of the O&M cost recovery slide?

A10. Taka millions.

Q11. What if India transportation does not increase over the years?

A11. There is an understanding that rates are presently being negotiated. The rates of increase are speculations at this time. In reality, it is unknown so the the average tonnage over a period of time was considered and calculated.

Q12. The creation of new land should be considered in the cost recovery scheme.

A12. The contribution of informal taxation of new lands should also be considered.

Q13. There is need for a mechanism to ensure the accountability of expenditures.

A13. The institution formed will be accountable to the beneficiaries. This will be decided upon during its formation.

Q14. Under the cost recovery, how do you propose to tax land in the KK area? To date in Bangladesh, no taxation on such a project exists. How will this project impose taxation on these projects?

A14. We will have to look at incremental benefits. The question is whether you want to tax the land or get the GOB to pay for everything.

Q15. There must be political will and GOB commitment. Where are GOB laws and regulations in the O&M cost recovery slide?

A15. The O&M cost recovery slide is just an example.

Q16. This is an irrigation project. How did you limit the land?

A16. Again, the O&M cost recovery slide is only an example. They took the project area and added boundaries. The objective was to save the boro crop.

Q17. There is a need to find another word for "land tax".

A17. If we continue with submersible embankments, the problem in the future will come up with the idea of how this will work.

B. WORK GROUP DISCUSSION AND RESULTS (integrated)

1. *SUGGESTED IMPROVEMENTS TO THE COST RECOVERY FRAMEWORK*

- Levy on future commercial growth centres;
- Collection of taxes for users of water bodies created or benefitted by the project - other charges for conservancy wards;
- Users charge for landing facilities;
- People participation during planning;
- Bottom-up planning for rates and systems of recovery;
- Indirect taxation in Greater Sylet area to be avoided as part of sustainable approach - in Bangladesh context;
- Introduction of license fee for fishermen;
- Selling of spoils during the O&M phase;
- Collection of homestead land development fees:
  - Suggested fee seems high;
  - Should be based on a detailed study made during project development;
- Cargo levy - acceptable;
- Passenger levy should be based on distance travelled;
- Local industry fees - fees should be charged on market places and local growth centres;
- Indian Cargo Transit Fees - existing fees should be revised based on the proper traffic study (refer to Page 19 - Key Actions);
- Appropriate laws needed for beneficiaries;
- Local authority to be formed to implement the laws; local authority to include locally elected bodies, stakeholders and local administration;
- Strong awareness/motivation among beneficiaries about project benefits, responsibilities and sharing of maintenance;
- A special deposit account should be created for this project;

- Any other benefits should also be looked at for levies;
- Land transfer tax to be received from owners of land being transferred after improvements;
- Market/Bazaar toll - to be received from lessees of market within project area;
- Homestead development fee - received from householders on raised platforms - rate of 50% of cost - for protection of homes against wave action;
- Recreation centre tax from ecotourism developers.

2. *KEY ACTIONS TO DEVELOP AND IMPLEMENT COST RECOVERY*

- Proper laws, legislation and enforcement needed (must expedite this);
- Political will and commitment needed;
- Create a River Management Authority for implementation to liaise with O&M (caution over tax - authority must have approval of government);
- Actions to motivate the beneficiaries;
- Gradually increase tax after Year 7 (implementation);
- Formation of beneficiary organization;
- Sharing of O&M costs to be pre-determined;
- Maintenance costs by beneficiaries through their associations;
- Adopt measures for tax collection through local government authority;
- Transfer percentage of international navigation fees to local project authority;
- Collection of all tolls, fees etc. by local bodies (except for international fees);
- Use of existing tax mechanisms for improvement;
- Community-based organizations should be involved in all aspects;
- Under the present Protocol Agreement (1997) between India and Bangladesh, the Indian cargo transit fees/levies have not been finalized. The old cargo transit fees seem to be high. Fees should be standardized after the proper traffic study is completed.
- Determine estimates of O&M costs;
- Principals of privatization of the means of realization to be legalized along with political commitment;
- Fielding the appropriate institution and awareness compaign for beneficiaries about benefits and costs.

The participants were then asked if they support the framework for cost recovery as presented. The answer was affirmative.

C. PLENARY SESSION DEBRIEF AND SUMMARY

1. *COMMON ELEMENTS*

- Establishment of laws and regulations through different policies;
- New or improvement of existing policies so that they can be implemented;
- Support land transfer fees;
- Political will;
- Taxation fees, levies are necessary for sustainability;
- People's participation;
- Development fees from the commercial platforms;
- Creating awareness of project beneficiaries for benefits, costs etc.;
- Collection of license fees from water bodies;
- Charges for conservancy works for navigation.

2. *AREAS OF DIVERGENCE*

- Land transfer tax;
- Platform fees;
- Fisheries - already fees in place;
- Different ways to levy land taxes - must seriously consider this due to the perceptions of the beneficiaries;
- How to realize fees? Need for new legal authorities;
- When to start the taxation: before, during, or after the project?
- It is important to consider the poverty level of the beneficiaries and their ability to pay:
  - Micro level benefit low;
  - Macro level benefit high;
- Trade protocol is needed to develop an understanding between countries - the lump sum amount is for many services and is a complex issue.

12. WORKSHOP 2: GOVERNANCE STRUCTURE

SEMINAR FORMAT: The seminar participants were divided into six working groups, each of which was asked to address four questions:

1. **What is the preferred form of organization? (How does it relate to GOB? What are the advantages and disadvantages?)**
2. **How does it effectively integrate the work of different ministries?**
3. **What are the links required to ensure balance between bottom up and top down?**
4. **What links are required to the cost recovery strategy?**

The results of the working group discussions are summarized below.

Note: ***The Working Groups' ideas are reflected in the organization charts shown below. These were presented to the plenary session and discussed, but there was no intent to "approve" any particular structure design or to fully define them in operational detail during the seminar. As indicated below, however, the process allowed points of convergence and divergence in thinking to be identified. This will facilitate the eventual design of the institutional structure for KKWMP implementation and O&M.***

A. WORK GROUP DISCUSSION & RESULTS

A.1 WORKING GROUP 1

WG1 presented the organization chart shown in Figure WG1 as the **preferred organization**. The following features were noted:

1. Minimal size;
2. Head of the Organization (Project Manager) should not be a GOB official;
3. Head of the organization should have excellent leadership qualities and should be well remunerated;
4. There would be two tiers of committee, one at project level and one at District level, with the following composition:

District Level :	1.	Representatives from GOB Sectors;
(5 committees)	2.	Local elected representatives (UP, Thana, District Parishads);
	3.	Further representatives as per modified GPP;
Project level	1.	Project Manager;
	2.	Sectoral representatives from 5 districts;
	3.	Other representatives as per modified GPP + NGO.

Regarding the other discussion questions:

Question 2: Ministry representatives are included in the Committee;

Question 3: The preferred link should be through the Ministry of Water Resources;

Question 4: Privatization of cost recovery wherever possible.

Question & Answer Session

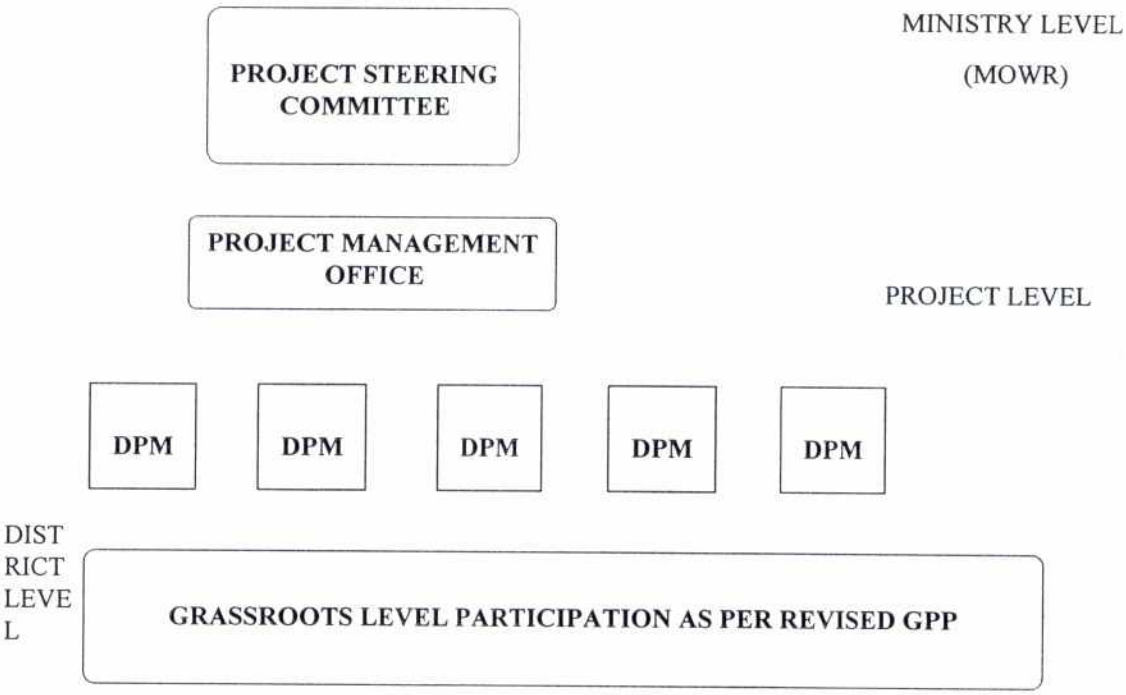
Q1. Would the head of the organization come from the private sector?

A1. Yes, as it is time to think of another type of leadership.

Q2. How would you coordinate amongst the five districts?

A2. The Project Manager would be mandated to do so at the thana and district levels.

FIGURE WG1 ***Working Group 1 Organization Chart***



A.2 WORKING GROUP 2

WG2 presented the organization chart shown in Figure WG2. The following features were noted:

1. The Implementation Committee should be at the grassroots level;
2. The TAEC (thana-level committee);
3. The DATC (district technical committee);
4. If the issue is agriculture-related, then the Ministry of Agriculture will coordinate. If it falls under the purview of local government, then LGED will coordinate;
5. Information is to be collected and shared at the departmental level;
6. The project would be coordinated and monitored by the Project Manager who will be located at the Water Development Board;
7. The National Steeringing Committee will be in charge of overall coordination and monitoring of the project.

The ***strengths*** of the proposed organization chart include: such structures already exist in Bangladesh and are therefore a known entity; technical and professional people will be involved, as will diverse groups; and finally, there will be public participation.

The ***weaknesses*** include: a lack of representation at the thana-level; the lack of coordination at the thana and district levels; and lack of motivation.

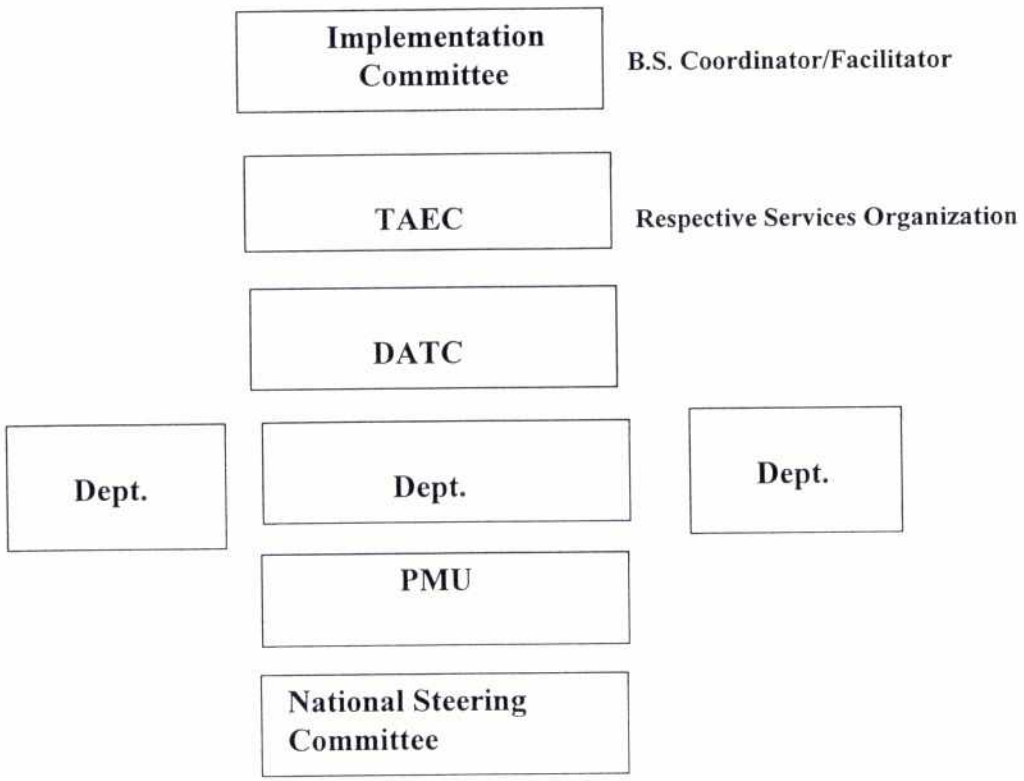
Please note that questions 2-4 were not addressed by WG2.

Question & Answer Session

The following comments were made during the discussion:

1. There is indeed representation at the thana-level in this organization chart;
2. The lead critical points to this project are the dredging, and that this musn't be forgotten.

FIGURE WG2 ***Working Group 2 Organization Chart***



Strengths &	Existence	Technical Professional	Groups
Weaknesses	No BWDB representation	Coordination needed at thana & district levels	Motivation

A.3 WORKING GROUP 3

WG3 presented the organization chart shown in Figure WG3. The following features were noted:

1. The project must have an integrated approach as it will impact 18 thanas in 5 districts.
2. The organization chart highlights the two phases of the project: the implementation phase and the O&M phase. It also highlights the principle disciplines that will be involved in the project.

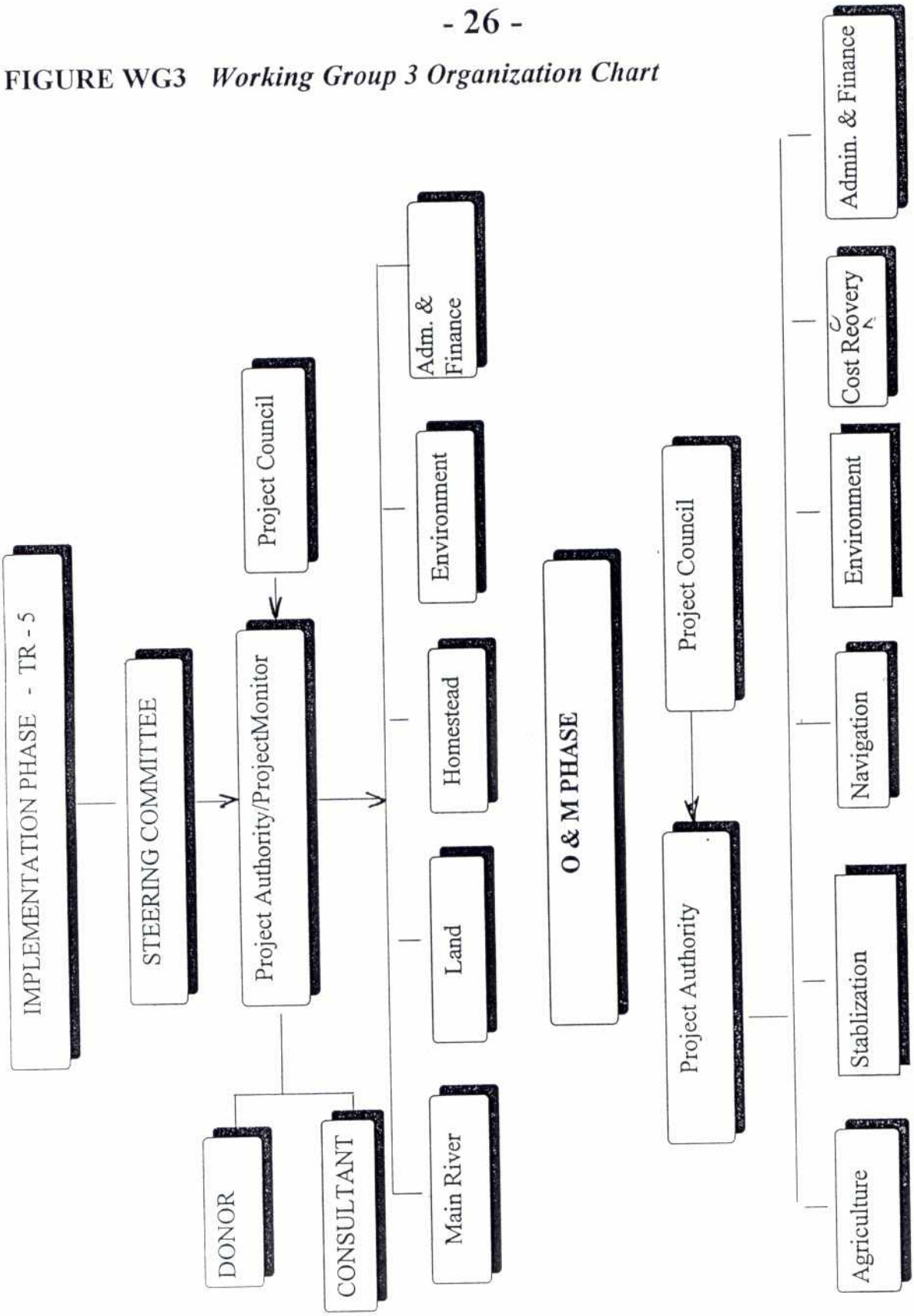
Please note that questions 2-4 were not addressed by WG3.

Question & Answer Session

The following comments were made during the discussion:

1. The project authority should be lead by a professional with experience in all disciplines referred to in the project.
2. The project should use participatory management.
3. The project council will be formed at the level of people's participation.
4. The project authority will include experts from different sectors as listed.

FIGURE WG3 *Working Group 3 Organization Chart*



A.4 WORKING GROUP 4

WG4 presented the structure shown in Figure WG4 and noted the following features: (1) the Ministry of Water Resources should be the lead ministry; and (2) the Steering Committee would be made up of representatives from other agencies.

Regarding the other discussion questions:

Question 2: Each line ministry would be represented in the Project Coordination Office and supported by both district and thana level offices.

Question 3 Planning would be from the top down as well as from the bottom up.

Question 4: This question was not addressed by WG4.

A.5 WORKING GROUP 5

WG5 felt that the structure proposed by the NERP team (FIGURE WG5) was considered acceptable with the following modifIcations:

1. The Chief Conservator of Forest should be on the Steering Committee;
2. The Project Implementation Office (PIO) should be headed by Project Director instead of "Executive Director";
3. There should be linkage between the PIO and NGOs at field level;
4. NGOs should be selected jointly by a consultant and the PIO.

The **advantage** of this structure is that GOB is implementing other similar multi-sectoral projects thus such a structure would be a known entity. The **disadvantages** would be the lack of sustainability of the project if project personnel were not carefully selected, and if the Project Director were not to effectively exercise the authority delegated to him. (In fact, the Project Director at present does not have enough delegated financial authority.)

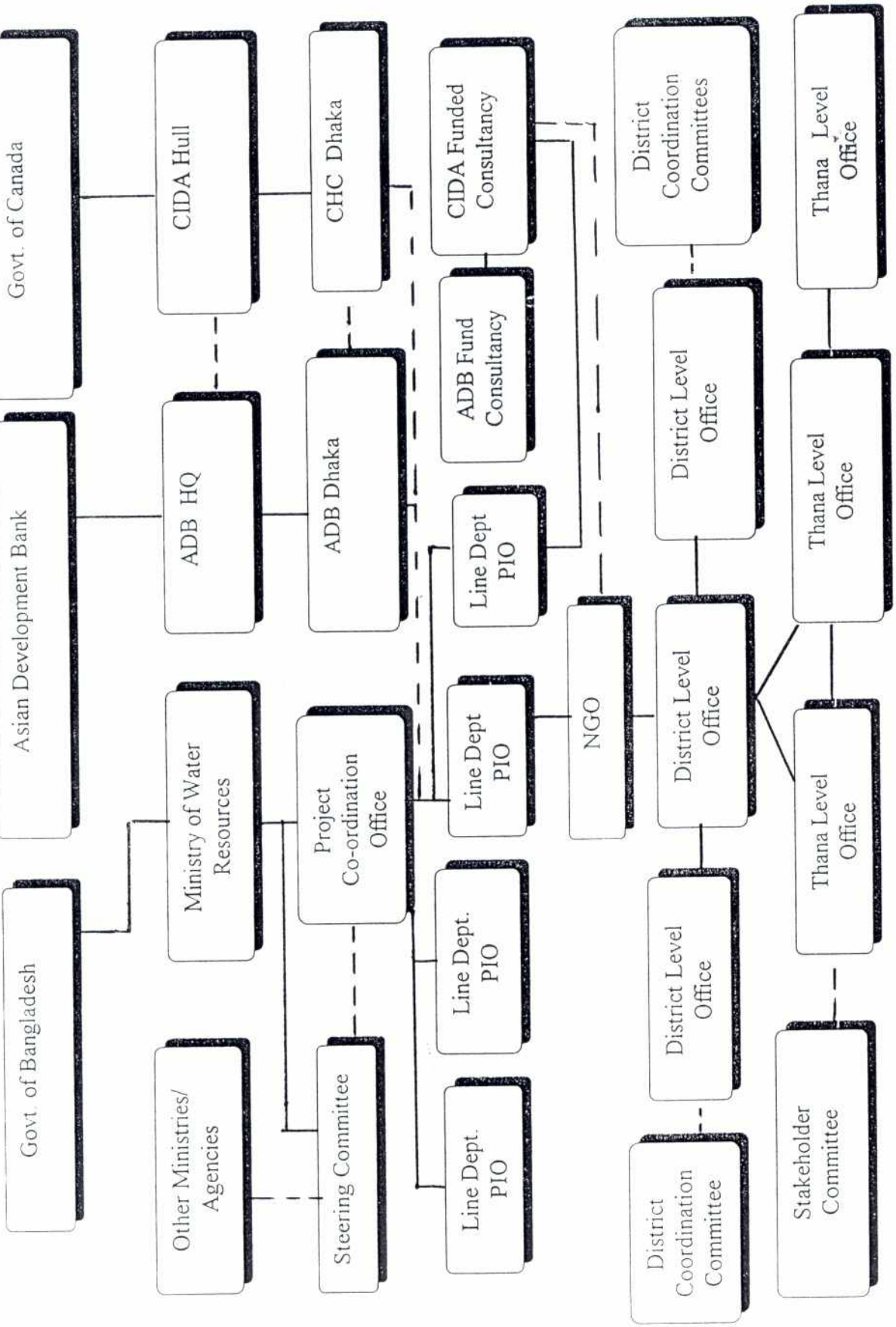
Regarding the other discussion questions:

Question 2: The Project Implementation Office will integrate the work of different ministries and the Steering Committee will oversee and solve any problems.

Question 3: There will be linkage with the beneficiaries through periodic meetings and reviews as per the revised GPP 1997.

Question 4: A single PP will be drafted for the whole project for better co-ordination, timely execution, proper monitoring and accountability. Existing institutions/agencies will collect tolls, navigation fees and taxes.

FIGURE WG4 ***Working Group 4 Organization Chart***



Project Organization Chart

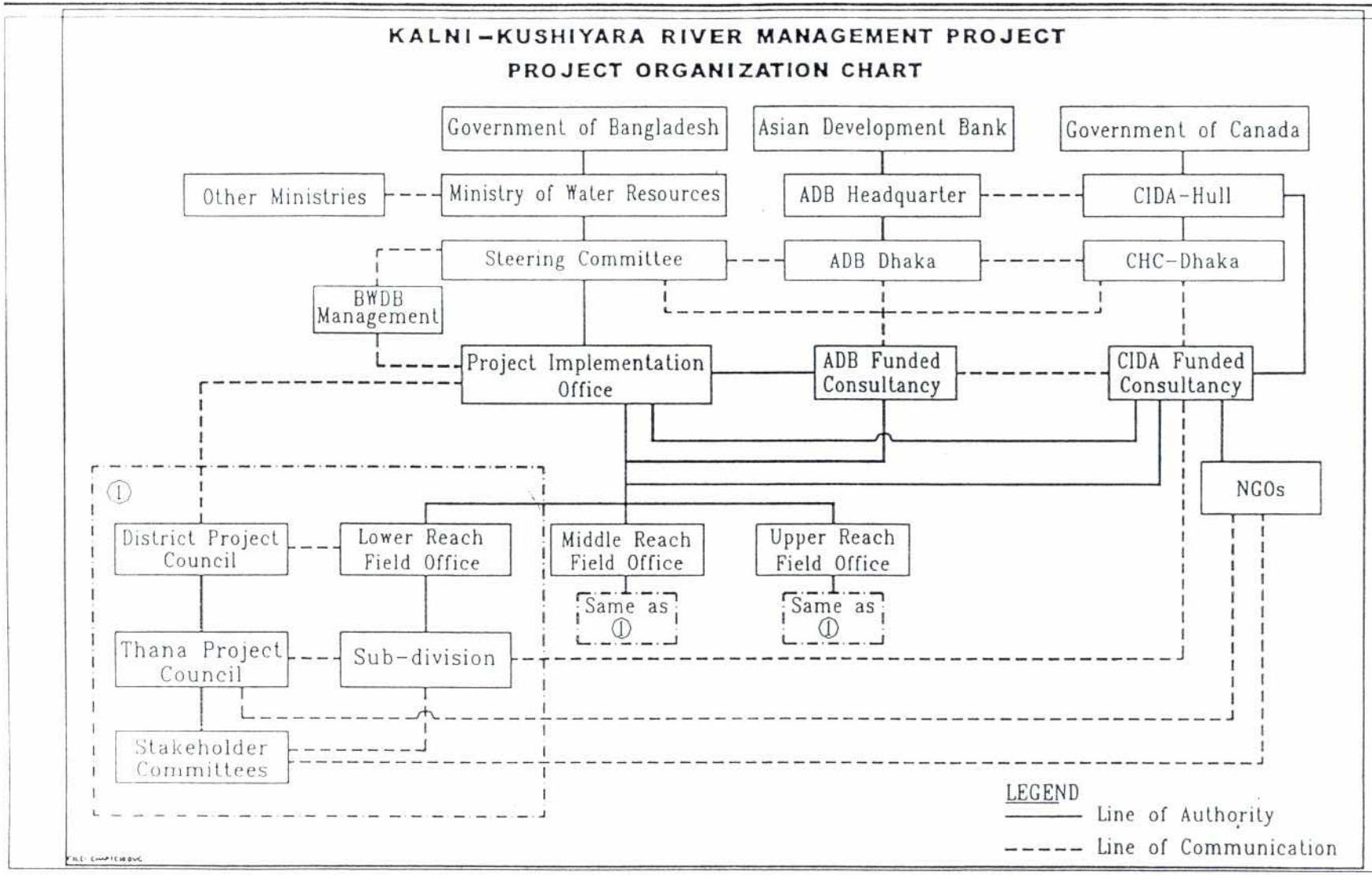


FIGURE WG5 *NERP/WG5 proposed Organization Chart*

A.6 WORKING GROUP 6

WG6 presented the organization chart shown in Figure WG6. It was noted that there will be only one organization for the implementation and O&M phases and this can be achieved by simply removing BWBD from the O&M phase.

Question & Answer Session

During the discussion, one comment was made: It was observed that due to the time that it takes for the modification of the PP, it is best to adopt a system that moves away from PPs.

B. CONCLUSION

The conclusions of this session were summarized under the headings entitled:***Common Elements*** of the suggested governance structures, and ***Divergences***:

1. ***COMMON ELEMENTS***

- a steering committee;
- representation from all relevant GOB sectors;
- a project implementation office;
- a lead agency;
- district level offices;
- 1 PCP;
- representation from beneficiaries;
- autonomous decision-making;
- NGOs input to the project centre;
- any funds collected should return to the project structure.

2. ***DIVERGENCES***

- single versus many PPs;
- public versus private sector;
- separate authority;
- should the same structure be used for both the implementation and O & M phases?;
- the participation of beneficiaries at different levels.

FIGURE WG6 Working Group 6 Organization Chart

13. BUSINESS SESSION 2B: RECOMMENDATIONS ON FRAMEWORK BUILDING

The seminar participants were asked to propose ***key actions*** to move the agenda forward. In the discussion that ensued, the following recommendations were made:

1. Recommendations should be made to GOB for policy decisions regarding the implementation phase.

2. GOB does not want to disrupt the existing structure but rather, it is interested in augmenting the current structure. That being said, improvements have already been made to the existing framework. On December 18, there will be a seminar on GPP. GOB is also looking to standardization.

   GOB needs to look at approaches which satisfy multiple donor interest: there are many internal issues that need to be resolved at the behest of the donors. Privatization is difficult. But the important thing is that it should not throw away existing structures. There is a need to look at the recent experiments of the Water Board in multi-sectoral projects.

3. Dredging is the lifeblood of the project and it must be contracted out. There is a problem of accountability in the dredging process. By contracting it out, the contractor would then be accountable to the project authority. There is also a future of privatization for this.

14. CLOSING COMMENTS

14.1 BWDB

The BWDB representative noted the apparent divergence on the issue of PPs. He expressed the need for a single, strong PP in order to allow all components of the project to be properly integrated. He further reminded the group that dredging is the main purpose of the project and that emphasis should be placed on cost recovery.

14.2 WARPO

Studies have been done on many projects and there are many solutions that can be applied. The KKRMP project will broaden the scope further.

14.3 NERP

The Team Leader of NERP noted that the points of convergence are the main results of the workshop, and that the points of divergence could be sorted out fairly easily. With the information collected through the discussions of today, he stated that that the project team will integrate the results from this seminar into the KKRMP Feasiblity Study Final Report.

14.4 Canadian High Commission

The CIDA Head of Aid stated that the objective of this workshop was to give profile to the project: it was to get senior-level GOB officials thinking about this particular project. He noted the success of the workshop which was evidenced by the participation of a great number of GOB officials.

In the quest for an ideal institution, he noted that there is still work to be done. However, agreement on how to go about this has been achieved. He underscored that there is need for more follow-up. In conclusion, he stated that both the people and the GOB have to literally "buy into" the project.

14.5 ADB

The ADB representative noted that a review of existing institutions must be undertaken in order to integrate best practices. He underscored that there should also be a review of legal frameworks for autonomous organizations. With regards to the private sector dredging component, he noted that a realistic time completion plan for contracting should be done.

The ADB representative stated that for the project to be sustainable, GOB will have to develop an Institutional Framework and Organizational Structure to execute the required activities during the O&M Phase of the Project. He also indicated that the failure to do so may jeopardize the financial involvement of the ADB in the Implementation Phase of the Project.

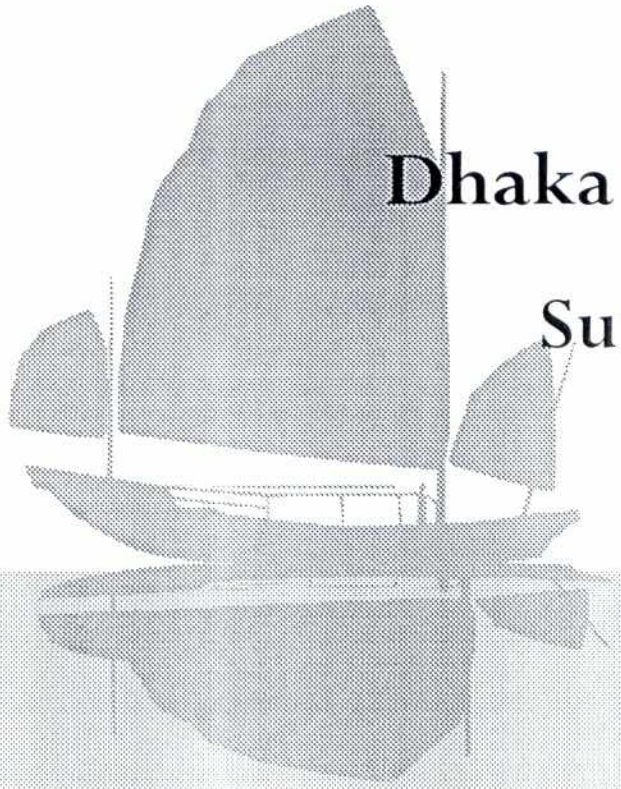
14.6 Ministry of Water Resources

The Secretary, Ministry of Water Resources, thanked the Canadian High Commission, the Bangladesh Water Development Board, WARPO, LGED and all participants. He agreed that much progress has been made and that in light of the discussions undertaken here, planners should be able to come up with an appropriate institutional structure and cost recovery scheme. He underscored that planners must work in an open minded way with the project officials to develop the appropriate institutional structure. He noted that in no other project have the beneficiaries been so completely consulted, and that maybe this can be used to move forward at a quicker pace. While implementation of this project is set to begin in the 21st century, he made a request that it become operational during the 20th century instead.

SEMINAR ON KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT

Dhaka 8 -9 December, 1997

Summary of Proceedings: ANNEXES



ANNEX A

LIST OF PARTICIPANTS

SEMINAR ON THE KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT

Date : 8 and 9 December, 1997**LIST OF PARTICIPANTS**

1. Dr. ATM Shamsul Huda, Secretary, Min. of Water Resources
2. Mr. Md. Nazrul Islam, Joint Secretary, Min. of Water Resources
3. Mr. M. Badiuz Zaman, Ministry of Water Resources
4. Ms. Laila Jesmin, Ministry of Water Resources
5. Mr. A.K.M.Halimur Rahman, Director General, Water Resources Plng. Org. (WARPO)
6. Mr. Shebuddin Ahmed, Deputy Secretary, Ministry of Water Resources
7. Mr. Md. Akramul Aziz, Deputy Chief, Ministry of Water Resources
8. Mr. Mujibur Rahman, Deputy Chief, Ministry of Water Resources
9. Mr.A.K.M.Shamsul Haque,Member, Planning, BWDB
10. Mr.A.F.M.Nurul Alam, CE, BWDB
11. Mr. Md. Abdur Rahman, Chief Engineer, Planning, BWDB
12. Mr. Mohamed Mohsin, Additional Chief Engineer, NEZ, BWDB
13. Mr. Nirmal Kumar Ganguli, Deputy Chief Agronomist, BWDB
14. Mr. Md. Fazlur Rahman, Planning Engineer,WSIP, EPC/BWDB
15. Mr. Momtazuddin Ahmed, Dy. Chief Agronomist, BWDB
16. Mr. ATM Khorshed Alam, Director, DPSI, BWDB
17. Mr. Kamaluddin Ahmed, Director, Land & Water Use,BWDB
18. Mr. Nityananda Chakraborty, Director, Econ. Planning, BWDB
19. Mr. Mohammad Mohsin, Addl. Chief Engineer, BWDB
20. Mr. Q. M. Ruhul Amin, Director (Rehab) SRP, BWDB
21. Mr. Md. Saeedur Rahman, Director, EIP, BWDB
22. Mr. Shafi Uddin Ahmed, CE/SRP, BWDB
23. Mr. Syed Moazzem Hossain, Chairman, BWDB
24. Mr.Kamaluddin Ahmed, Director, Land & Water Use,BWDB
25. Mr. Moshiur Rahman, XEN, SSWRDSP
26. Mr. Flora Barua, Assistant Engineer,SSWRPD
27. Mr. Fazlur Rahman, Planning Engineer, WSIP/EPC
28. Mr. Baker Mahmud, Sociologist, WSIP
29. Mr. A.S.M.Abdul Khaleque, PSO, WARPO
30. Mr. A.T.M.Ataul Khaleque, PSO, WARPO
31. Mr Jien R. Frans, Part.Dev. Adviser, BPPM/SSWRDSP

32. Mr. Md. Abdur Rahman, Deputy Chief, Local Govt. Division
33. Mr. Serajul Islam, Deputy Chief, Local Govt. Division
34. Mr. Md. Kamruzzaman Bhuiyan, Project Director, LGED
35. Mr. Akram Hossain, Design & Planning Engineer, LGED
36. Mr. Md. Khamruzzaman Bhuiya, Project Director, LGED
37. Mr. Gopal Chandra Sarker,Thana Engineer, LGED, Mithamoin
38. Ms. Reba Paul, AE (Environmentalist), LGED
39. Mr. Md. Wahidur Rahman, Project Director, LGED
40. Mr. A.M.M.Sadeque, Thana Engineer, LGED
41. Mr. Vaskar Kanti Chowdhury, Thana Engineer, LGED
42. Mr. Md. Azizul Haq, Project Director, LGED
43. Mr. Henryk Werslko, Planning & Design Engr., BPPM/LGED
44. Mr. Md. Khorshad Alam, Thana Engineer, Nabiganj, Hobiganj, LGED
45. Mr. Md. Iqbal Hossain Bhuiyan, Assistant Engineer, Hobiganj, LGED
46. Mr. H. Weeks, Planning/Design Advisor, BPPM/LGED
47. Mr. Jern D. Wiebe,Team Leader, BPPM, LGED
48. Mr. Md. Shahidul Hoque, XEN, LGED, Kishoregonj
49. Mr. M. Shamsul Hoque, O&M Specialist, LGED

50. Mr. Mohammad Lokman Hakim, Project Director, RDP-3, Jagannathpur, Sunamganj
51. Mr. Md. Iqbal Hossain Bhuiya, A.E.,Habiganj
52. Mr. Bijoy Paul, T.E., Ajmiriganj, Hobiganj

53. Mr. M.A. Mannan,Joint Chief, Irrigation, Planning Commission
54. Mr. Kamal Uddin Ahmad, Planning Commission
55. Mr. Kamal Uddin Ahmad, Deputy Chief (Irrigation Wing), Planning Commission
56. Mr. Rafique Ahmed Siddique, Assistant Director, IMED
57. Mr. Md. Abu Yousuf Miah,Assistant Director, IMED, Min.of Planning

58. Mr. S.M. Jalil, Chief Conservator of Forest, Forest Department
59. Mr. Quazi Tofazzal Hosain, Dept. Agriculture Extension
60. Mr. Md. Abu Bakar, Deputy Director, DAE
61. Mr. Abu Mohammad, Deputy Chief, M/o Fisheries & Livestock
62. Mr. Md. Zahirul Islam, Deputy Director, Dept. of Fisheries
63 Mr. Md. Shamsher Ali, Director of Planning, BIWTA
64. Mr. Parvez Ali Anwar Khan, Chief Engineer, BIWTA
65. Dr. M.K. Farooque, Joint Director, DOE
66. Dr. M. Shahjahan,Professor, WRE, Dept. BUET
67. Dr. Abdul Hannan,Professor, BUET
68. Dr. A. Nishat, Professor, BUET
69. Mr. John Moore, Head of Aid, Canadian High Commission
70. Mr. Md. Sariatullah, Development Adviser, Canadian High Commission
71. Ms. Nazreen I. Sharif, Cont. Management Officer, CIDA/ PSU
72. Mr. John Jackson, Director,CIDA/PSU
73. Ms. Leslie Norton,Project Officer, CIDA/PSU

74. Mr. Abdul Ghani, Irrigation Engineer, World Bank
75. Mr. Md. Latifur Rahman, Program Specialist, USAID
76. Mr. John Brooks, ADB
77. Mr. Sarder Shafiul Alam, BCAS
78. Dr. M. Yousouf Ali, BCAS

79. Mr. Charly Cadou, Project Team Leader, NERP
80. Ms.Farida Yasmin, C.O., NERP
81. Mr. Md. Tariqul Alam, Fisheries Biologist, NERP
82. Mr. F. Francon, NOM Team Leader, NERP
83. Mr. Tarek Bin Hossain, Int.Sediment Engineer, NERP
84. Mr. Md. Sharif Hossain, Resident Engineer, NERP
85. Mr. Abu Sarwar, C.O., NERP
86. Mr. Md. Mahbub Ali, Coordinator, NERP
87. Mr. Mosharraf Hossain, Sr. Social Anthropotgist, NERP
88. Mr. Sheikh Borhan Ali, Admin. Manager, NERP
89. Mr. Md. Monirul Islam, C.O., NERP
90. Mr. Alain Pare, NERP
91. Mr. Carol Eggen, Social & Gender Advisor, NERP
92. Mr. Md. Sharif, RE, NERP
93. Mr. Abu Sarwar, C.O, NERP
94. Mr. Md. Abul Quasem, Training Specialist, NERP
95. M.r Md. Tariqul Alam, Fisheries Biologist, NERP

ANNEX B

AGENDA

AGENDA

Seminar Theme: *"Building a Framework for Success"*

Day 1 ***Objective:*** ***To create a shared understanding of the criteria for success for the future of the Kalni-Kushiyara River Management Project***

08:30 Registration

Inaugural Session

09:00 Welcome address by the Team Leader, Northeast Regional Project

09:05 Speech by the special guest, HE the High Commissioner of Canada

09:15 Speech by the ADB mission representative

09:20 Speech by the special guest Honorable State Minister for Planning, Civil Aviation and Tourism

09:30 Speech by the chief guest Honorable Minister for Water Resources

09:40 Speech by the Chairman of the Session, Secretary, Ministry of Water Resources

09:50 Review of Agenda by the CIDA Facilitator

10:00 Vote of thanks by the Chairman, BWDB

10:05 Tea

Business Sessions 1A: KKRMP - Status and Outlook

Facilitator		:	Mr. Monty Doyle CIDA
10:35	Presentation	:	Kalni-Kushiyara River Management Project by - Mr. Mahbub Ali, NERP
11:05	Questions and Answers	:	Facilitator Participants
11:45	Issues for Implementation	:	Facilitator
12:00	Questions and Answers	:	Facilitator Participants

12:30 Lunch Break

Business Session 1B: Criteria for Success

Facilitator	:	Mr. Monty Doyle CIDA
13:30 Presentation	:	Multi-sectoral Project Management and O&M Concepts by - NERP Project Team
13:45 Questions and Answers	:	Facilitator
14:15 Presentation	:	Cost Recovery Policy by - Mr. Shafi Uddin Ahmed, BWDB
14:35 Questions and Answers	:	Facilitator Participants
15:05 Tea Break		
15:20 Presentation	:	Appropriate Institutions to Implement a Multi-sectoral Water Development Project by Mr. Abdul Mannan, Planning Commission
15:40 Questions and Answers	:	Facilitator Participants
16:00 Plenary Discussions	:	Criteria for Success Facilitator, Participants
16:25 Review Agenda for Day 2	:	Develop Task Statement for the Workshop Facilitator
16:35 Evaluate Day 1	:	Facilitator
17:00 Closure		

Day 2 ***Objective:*** ***To Develop a Framework for sound implementation including funding, O&M structure which has the commitment for all parties***

Session 2A: Building the Framework for Implementation

Facilitator	:	Mr. Monty Doyle CIDA
9:00 Re-cap Day 1	:	Facilitator
9:20 Discussions	:	Initial conception/ideas regarding O&M governance - Facilitator
Workshop 1 : O&M Financing	:	Facilitator/All Participants
09:40 Set out Task Statement		

10:00 Tea

10:30 Group Discussions

12:00 Plenary debrief and summary

12:30 Lunch Break

Workshop 2: Governance Structure : Facilitator/All Participants

13:30 Set out Task

13:20 Discussions

14:35 Plenary debrief

14:55 Identify areas of convergence and disagreement

15:00 Tea Break

Session 2B: Building the Framework : Facilitator/All Participants

15:15 Plenary Summary of the Emerging Framework

15:30 Agreement to the Framework

16:00 Steps required to implement the framework

17:00 Wrap up Session

ANNEX C

Innaugural Session Speeches

Seminar on
Kalni-Kushiyara River Management Project
Dhaka 8-9 December 1997

Address of Welcome
By Charly F. Cadou
Team Leader, Northeast Regional Project (NERP)

Respected Chair of the session, Secretary, Ministry of Water Resources, Dr. A. T. M. Shamsul Huda;
The Chief Guest, Honourable Minister, Ministry of Water Resources, Mr. Abdur Razzaq;
The Special Guests, Honourable State Minister, Ministry of Planning, Civil Aviation and Tourism, Dr. Muhiuddin Khan Alamgir, and
The High Commissioner of Canada, His Excellency Mr. Nicholas Etheridge;
The ADB representative, Mr. John Brooks.
Honourable Members of Parliament, Officials of the Government of Bangladesh, development partners, distinguished participants and colleagues, representatives of the national medias;

On behalf of the organizers, I welcome you to the seminar.

We have gathered here to discuss Cost Recovery and Institutional Issues of the Kalni-Kushiyara River Management Project. Its purpose is to create a shared understanding of the criteria for success for a multi-sectoral project like KKRMP.

The Project was developed as a joint undertaking of the governments of Bangladesh and Canada by the Northeast Regional Project, one of the components of the Flood Action Plan.

The Northeast Region includes parts of the Brahmaputra and the Meghna basins in the greater Sylhet and Mymensingh regions. It accounts for 16% of the area and 15% of the population of Bangladesh.

During the first phase of the project in 1991-93, the study team made an inventory of the water resources of the Northeast region and identified its problems and development potential. Based on an exhaustive database, a Northeast Regional Water Management Plan was then prepared. This earlier plan identified 44 initiatives in the field of water management and human resources development. As a part of the plan, 22 pre-feasibility studies had also been undertaken in several key areas.

One of the pre-feasibility studies carried out then was the Kalni-Kushiyara River Management Project. The Project extends over five districts and accounts for about 14% of the Northeast region and is home to close to 1.9 million people. The project area is characterised by flash floods, sedimentation and channel instability. Recurring pre-monsoon flood damage and channel instability have accelerated the process of pauperization of the farming community.

The Kalni-Kushiyara River Management Project was then selected for feasibility study as one of the components of the second phase of the Northeast Regional Project which started in 1994.
The KKRMP feasibility study consisted of two components:

- a pilot dredging project to test and evaluate specific dredging operations and concepts related to beneficial uses for the dredged soil, particularly to construct village platforms. The pilot project would be executed under field conditions in order to gather accurate input for the feasibility study;

- a comprehensive feasibility investigation to assess the specific works are required, the benefits that may be expected, the nature of the resulting impacts and management required.

As a part of the feasibility study, the pilot dredging operation was carried out in 1995-96 at two locations on the Kalni River downstream of Ajmiriganj. The first site, Kakailseo is located on the left bank of the Kalni River in Kakailseo thana of Habiganj district, about six kilometres downstream of Ajmiriganj. The second site, Gazaria is located on the right bank of the Kalni River in Itna thana of Kishoreganj district, about four kilometres downstream of Ajmiriganj.

These platforms provide an additional homestead area of about 8 ha and facilitates accommodation of over 200 families.

Results of the engineering and environmental monitoring indicate that the physical impact of the project on the surrounding areas is minimal. Lessons learned from the pilot project becomes one of the basis for developing the KKRMP.

The KKRMP has been designed to meet multiple objectives - improve river stability, reduce damage to agriculture, improve living conditions and navigation.

In order to meet all of these objectives, a coordinated river management strategy was developed. In this approach, river stabilization measures required for improving agricultural production, are also used to benefit navigation, fisheries and human settlements.

The pilot dredging project demonstrated that waste spoil from channel excavation work can be used as a valuable resource for constructing new flood-protected village platforms.

At the same time, using the spoil to built new platforms provides an effective means of solving a difficult waste material disposal problem that is commonly associated with channel excavation work.

The KKRMP is, on balance, considered to be economically viable, environmentally sustainable and socially acceptable and good investment opportunity for Bangladesh.

The draft report has been reviewed by GOB, CIDA and ADB and is expected to be finalized by the end of December 1997.

A crucial aspect of river management involves carrying out ongoing channel maintenance. In this context " maintenance" means more than routine repair works.

In the KKRMP, the scope of maintenance works will extend along the entire length of the river. Systematic data collection and field observations will provide the direction and guidance for the maintenance works.

An important requirement for this type of adaptive river management approach is the need for institutions with the capacity and resources to carry out the monitoring and maintenance works.

The purpose of this seminar is to share understanding and to develop a framework for sound implementation including funding, O&M and structure for a multi-sectoral project like KKRMP.

Thank you for your attention.

KALNI-KUSHIYARA RIVER MANAGEMENT PROJECT

SEMINAR ON COST RECOVERY AND INSTITUTIONAL ISSUES

8-9 December 1997

Statement by John F. Brooks
Officer in Charge
Bangladesh Resident Mission, Asian Development Bank

Mr. Chairman, Honorable Minister for Water Resources, Honorable State Minister for Planning, Civil Aviation and Tourism, Your Excellency the High Commissioner of Canada and other distinguished guests, participants and members of the CIDA project team, the Asian Development Bank (ADB) is privileged to address the Seminar.

The ADB has provided about 600 million dollars in loans to Bangladesh for water resources projects, making it one of our most important sectors. Based on the Government's water and flood management strategy, the Bank's portfolio of ongoing and programmed projects focuses on the preparation of an integrated national water management plan and institutional development.

Under this strategy, the Bank attaches increasing importance to sustainability, and the cost recovery of operations and maintenance in particular. On this basis, we recognize a duty to stakeholders to ensure that the economic benefits meet their targets in poverty reduction. This translates to intergenerational concerns, in which cost recovery and efficient management underpin a basic rationale in the project approach to development. Specifically, if a project leaves operations and maintenance cost recovery as a matter to evolve on some unspecified basis, and under a weakly agreed policy and enforcement structure, then the Project rationale faces grave risks from the outset.

The Kalni-Kushiyara River Management Project contains several innovative elements. It focuses on a rather neglected area of Bangladesh. It offers hope of increased and more reliable agricultural yields in the reduction of pre-monsoon flood risks. It also adopts a beneficial approach to the disposal of dredging spoil in the construction of village platforms, and the involvement of local people in platform maintenance using appropriate technology. What it currently lacks, is a firm basis for agreed and sustainable recovery of the maintenance dredging costs.

Under the existing institutional framework, where the nation's dredging resources are in the hands of two inefficient public sector bodies, one important risk can be recognized immediately. The BWDB and BIWTA could be asked to consider integrated planning and operation of its dredging fleets. Providing a policy framework which encourages commercial accountability and private sector

investment in dredging is also necessary. In addition, the participation of LGED, the Agriculture Department and other agencies involved in rural development is a prerequisite.

Almost 95 percent of the expected economic and socio-economic benefits of the Project relate to poor, near subsistence farmers. Can we, should we, expect that they will meet the majority of the operations and maintenance costs? This may be valid for the village platforms but what of the main channel dredging operations on which the project fundamentally depends? This amounts to up to 1 million cubic meters of dredged material per year for the entire 20 year life of the project and beyond. This is one of the most important issues facing the Seminar and it is one of the reasons why the ADB has placed a project preparatory technical assistance in its prospective pipeline. Answering this question, and meeting strategic objectives to develop a more integrated approach to water resources management, ensuring that all economic benefits are captured by the Project beneficiaries, is of fundamental concern to the Bank.

The Bank is keen to help, but while the next programming mission in February 1998 will explore possible cofinancing with Canada, we are unable to yet make any firm commitment to the Project, especially in the absence of a firm understanding on operations and maintenance cost recovery. This requires a policy and institutional arrangement which makes the Project a much less risky notion. While various remedial measures have been taken, the Bank's experience under completed and ongoing projects support this denoting the need for a more holistic approach under the Kalni-Kushiyara Project.

The transboundary aspects of water resources are unavoidable. For example, the proposed Timaipukh Dam, in India, could have significant influence on the Project. The Government is requested to provide more information on this and a clearer reflection in the Project of India's river development programs.

Another matter is the existing *Protocol on Inland Water Transport and Trade*. Rehabilitation of the Kalni-Kushiyara link in the Assam to Calcutta route under this protocol, and the generation of national inland water transport (IWT) traffic between northeast Bangladesh and Chittagong Port and Dhaka, would help to lift the current 5 percent of economic benefits allocated to transport, and provide a significant source of revenues for maintenance dredging.

Ladies and gentlemen, the participatory challenge of the Seminar will reveal the practicality of these and other prospects in building a framework for success, and we congratulate CIDA on its initiative.

Thank you.

KKRMP SPEECH
by the High Commissioner of Canada to Bangladesh, Mr. Nicholas Etheridge,

Honourable Minister of Water Resources
Honourable State Minister for Planning and Civil Aviation
Distinguished Participants in this Seminar
Salaam aleykum.

It is a real honour and pleasure to take part, along with several ministers, in this seminar on the Kalni-Kushiyara River Management Project. Just over a year ago I was fortunate enough to be able to visit this area by boat and see for myself the pilot projects undertaken there. The trip made me appreciate how important water is for Bangladesh. It's the creator and the destroyer, the provider and the thief. This visit also made me realize what can be done by man in a sensitive way to ensure that water plays the role that nature intended and to benefit rather than threaten human activity and settlement.

The dredging, village platforms and fish passes I saw are a testament to how man and water systems can live in harmony.

Just this past weekend I was able to spend 2 wonderful days on the Meghna and the Ganges, reminding me of the centrality of water resources to life and the economy in Bangladesh.

If Canada and Bangladesh have anything in common, it is the need properly to manage water resources. In both countries, our rivers provide crucial transportation and irrigation benefits. And in both our countries, river flooding can cause serious social and economic disruption.

What is different, of course, is the scale of the challenge, and that Canada has acquired sufficient expertise and financial resources to address our needs - to manage our river systems and to alleviate suffering when disaster strikes. It is natural, then, that we have decided to direct some of the human and financial resources of our aid program in Bangladesh towards Bangladesh's efforts to address its own water management needs.

Our involvement in this sector goes back to the early 1970s with the North west Deep Tubewells Project - co-financed with Sweden and the World Bank. This was followed by a host of small scale water control projects over several years.

After the disastrous floods of 1989, we responded to the Flood Action Plan by supporting the execution of the Northeast Regional Water Management project or "NERP" as it is called. Most recently, we have implemented the following four priority projects, in line with the 1995 Bangladesh water and flood management strategy. The projects are:

1. The improved flood warning pilot project;
2. The Kangsha Basin water management plan;
3. The fish pass pilot project,

And

4. The Kalni-Kushiyara feasibility project.

You may have noticed that I have referred a few times to GOB's own river and water management plans. We are able to secure Canadian funds for this sector because we have confidence in the soundness of these plans, and because we are impressed by the determination of the honourable Minister for Water Resources and his colleagues to see the plans through.

I have referred as well to our co-operation in the past with other donors. Canada actively seeks, and very much values, co-ordination with other donors. We also value the participation of ordinary Bangladeshis who will be affected in both the planning and implementation of our projects. In our view the development of the Kalni-Kushiyara and other river systems simply cannot be done without close co-ordination among all the stakeholders.

Which brings me, finally, to the purpose of this gathering: the inauguration of the Kalni-Kushiyara River Management Project Seminar.

This seminar is part of the on-going co-ordination effort I've been talking about. What we hope you will provide in the next two days are

- first, suggestions for an appropriate institution to develop this multi-sectoral water management project, and

- second, suggestions on ways and means of obtaining maintenance cost recovery with a view to achieving sustainability - that key word-of project operations and maintenance.

What is being contemplated for the Kalni-Kushiyara will result in tremendous social, economic and environmental benefits. As we all know, it will take considerable financial resources to achieve those results. However, to commit the required resources, Canada and the Asian Development Bank are both seeking assurances of sustainability.

Sustainability requires commitment at both recipient and government levels. The beneficiaries of the project area and all the concerned Bangladesh Ministries have to be involved in project formulation, implementation and maintenance. The people and the Government of Bangladesh must literally "buy into" the project.

As I look about the room, I am inclined to believe that the "buy in" will indeed be realized. The presence here today of Ministers, members of Parliament and senior representatives of the Government of Bangladesh is very encouraging indeed.

A plan without leadership can quickly go awry. But in the case of the KKRMP, things are going according to plan and we have the leadership of the honourable Minister to thank for that.

Good luck with your deliberations.

December 8, 1997

Speech of the Special Guest

Dr. Muhiuddin Khan Alamgir
Honorable Minister for Planning, Civil Aviation and Tourism

Dr. A.T.M Shamsul Huda, Chairman of the inaugural session and Secretary, Ministry of Water Resources, the chief guest, Honorable Minister for Water Resources Mr. Abdur Razzak, to-days other special guests, the High Commissioner of Canada His Excellency Nicholas Etheridge, the ADB representative Mr. John Brooks, the Chairman, Bangladesh Water Development Board, the Team Leader of Northeast Regional Project, Mr. Charly F. Cadou, the Honorable Members of Parliament, the Secretaries from the various ministries, His Excellencies, members of the diplomatic missions and donor agencies, officials from different government agencies, members of the national medias, and ladies and gentlemen, I extend you all a warm welcome, and thank you for your coming.

I feel honored to be present as the special guest of the seminar on the Kalni-Kushiyara River Management Project (KKRMP). I would like to thank the organizers of the seminar for giving me an opportunity to be a part of the discussions on the Kalni-Kushiyara River Management Project which is challenging, innovative and addresses the key issues in water management project.

The overall goal of the Kalni-Kushiyara River Management Project is to provide a sustained management of the Kalni-Kushiyara River. By doing so, the project will provide the basis for stable and reliable agricultural, navigation, fisheries, infrastructure and economic growth in order to alleviate poverty and improve human welfare in the haor areas of northeast region. I am extremely happy that one of the innovative features of the project is that linking with the national level objectives and fulfils the long demand of the haor community. I thank the Canadian International Development Agency (CIDA) and the Northeast Regional Project (NERP) for their technical assistance and for the formulation of the KKRMP project.

I believe, solutions to problems associated with channel instability and sedimentation generally require a long-term management approach. Therefore, crucial aspect of river management must involve carrying out ongoing channel maintenance. In this context, "maintenance" involves more than routine repair of the existing structures. An important requirement for this type of adaptive river management approach is the need for institutions with the capacity and resources to carry out the monitoring and channel maintenance works.

We can see from our past experience that a number of water resources development projects deteriorate due to various reasons. To overcome this situation, GOB recognizes the need for involvement of the impacted people at all stages of project development from project identification through O&M, so that beneficiaries get a sense of ownership and as a result, play a vital role in the operation and maintenance of their projects in the best possible way.

208

The KKRMP project by its nature is a multi-sectoral project where several ministries and agencies will be involved for its implementation and O&M. Benefits also extends over several sectors. For successful implementation, operation & maintenance as well as cost recovery, we will need an appropriate institution. I wish and hope that the distinguished participants will their share understanding so that we will develop a consensus for building the framework for such an institution to ensure the success of the Kalni-Kushiyara River Management Project.

I am happy to know that CIDA and ADB have endorsed the project and is included in the Bank's 3-year rolling investment plan developed in collaboration with the GOB and proposed to be implemented with CIDA co-financing.

In conclusion, I like to thank CIDA and ADB for their assistance in the development of this country, and particularly for the development of the haor community. I wish all success of the seminar.

Thank you all very much.

Speech by the Chief Guest

Mr. Abdur Razzak

Honorable Minister for Water Resources

Chairman of the Inaugural Session,

Honourable State Minister for Planning, Civil Aviation and Tourism,

His Excellency, The High Commissioner of Canada,

Honourable Members of Parliament,

Distinguished Guests

Ladies and Gentleman.

Assalamu Alikum,

It is indeed a great pleasure for me to be present as the Chief Guest at the seminar on the Kalni-Kushiyara River Management Project (KKRMP). The KKRMP project planning has been made possible by the Joint sponsorship of the Ministry of Water Resources and the Canadian International Development Agency and cooperation among the Bangladesh Water Development Board, Water Resources Planning Organization, and the Northeast Regional Project. I would like to thank the sponsors and the organizers of the seminar for giving me an opportunity to be a part of the upcoming discussions on vital river management issues and on the development of a framework for integrated river basin management strategy for the KKRMP area. Recurrent pre-monsoon flooding before the harvest of boro crop and channel instability have made the haor region one of the poorest in Bangladesh.

Desiltation of rivers and environmental upgradation are very crucial in a riverine country like ours. Siltation is linked with river bank erosion and channel shifting which are the major factors for increasing landlessness and out-migration from the region. With a coordinated river management strategy, the lot of the poor haor people can be improved significantly.

I am glad to know that the Kalni-Kushiyara River Management Project is one of the priority projects of the Northeast Regional Plan which has been prepared by the Northeast Regional Project, with technical assistance from the Canadian International Development Agency. I am also happy that the project has been prepared based on practical experience gained from pilot dredging operations carried out in the lower Kalni River during 1995-96.

I have read the seminar papers prepared by the Northeast Regional Project and the GOB officials, and I believe that this project will bring great relief to the 1.9 million people in the haor region who have been suffering for a long time from channel instability and pre-monsoon flooding. I am really impressed by the concept of reusing dredged spoil for the construction of new homestead platforms and extension of the existing villages as proposed in the KKRMP Implementation Plan.

The Kalni-Kushiyara River Management Project is challenging and innovative and addresses key issues that are considered critical in water management project. This project is also multi-sectoral in nature. During this seminar, participants will be discussing O&M cost recovery and institutional issues. I will request the distinguished participants to discuss the issues in depth and to help us in formulating a framework for the implementation and O&M of the project.

I have came to know that the Kalni-Kushiyara River Management Project is already in the pipeline of CIDA and ADB. I feel extremely happy about this and request our development partners to implement the project as soon as possible to redress the sufferings of the haor community.

Finally, I must thank the Canadian International Development Agency for rendering assistance to the development of this country, and particularly for the preparation of the Kalni-Kushiyara River Management Project. I trust that we can continue working together for the betterment of Bangladesh and to establish it as a self-sufficient, prosperous nation.

I wish the seminar all success and also a very successful project implementation soon.

ANNEX D

NERP Presentation

FLOOD ACTION PLAN

Northeast Regional Water Management Project (FAP 6)

Kalni-Kushiyara River Management Project (KKRMP) Seminar

December 1997

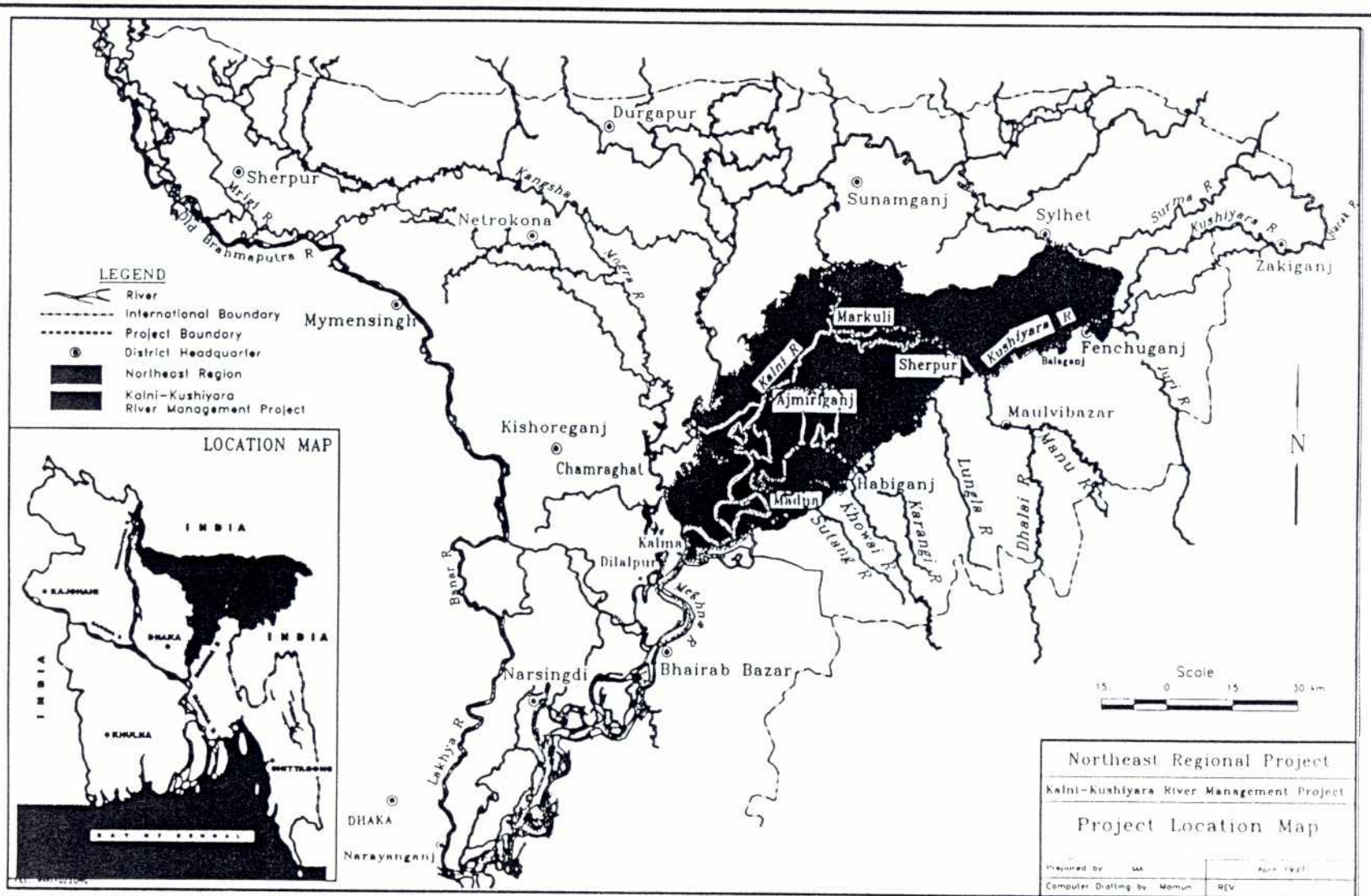
SNC • LAVALIN

nhc

Points to be Discussed

- Overview of the Project Area
- Problems and Issues
- Trends
- Objectives
- Project Impacts
- Project Assessment
- Project Implementation
- Conclusions and Recommendations

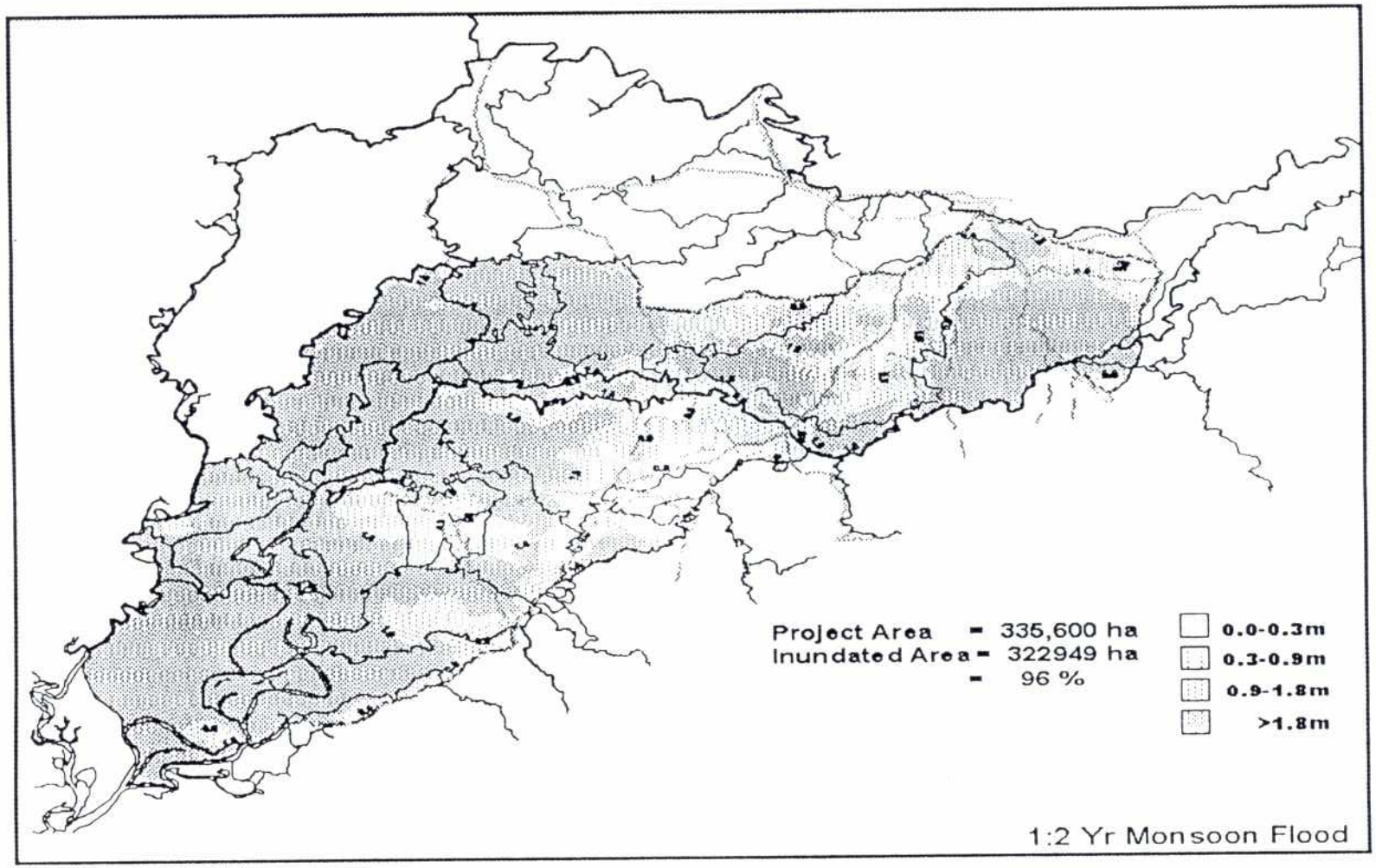
Project Location Map



SNC • LAVALIN

nhc

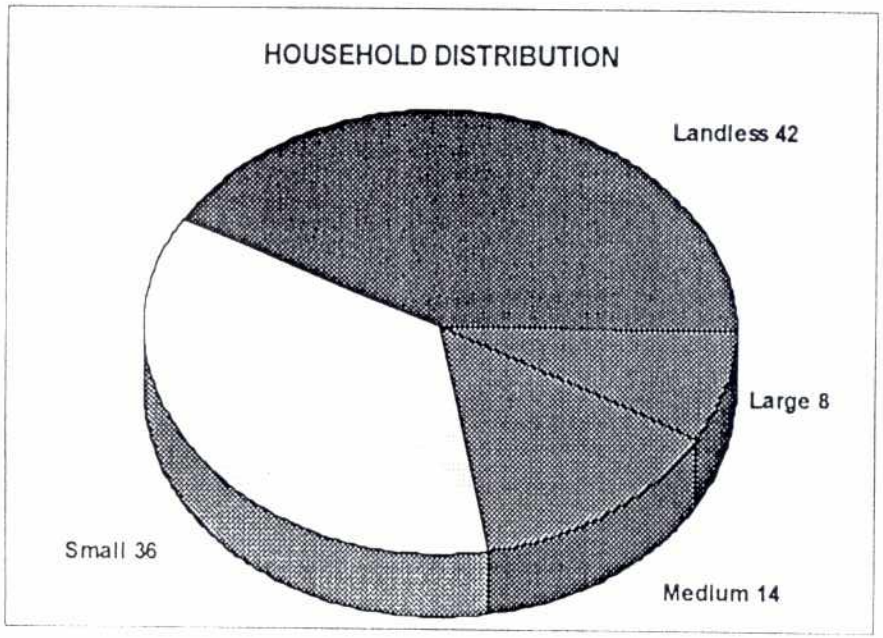
Inundated Area (1:2 year Monsoon Flood)

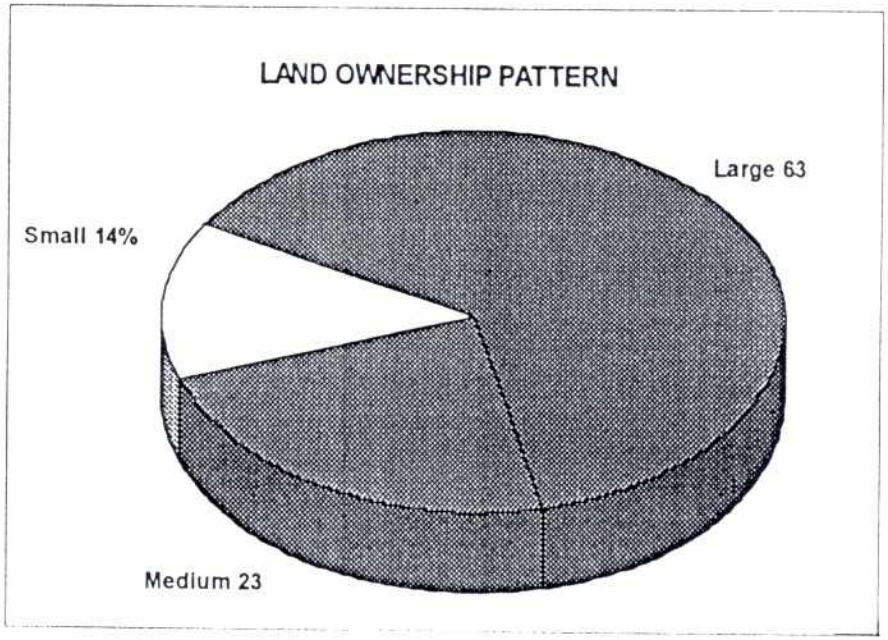


SNC • LAVALIN

nhc

Social Stratification

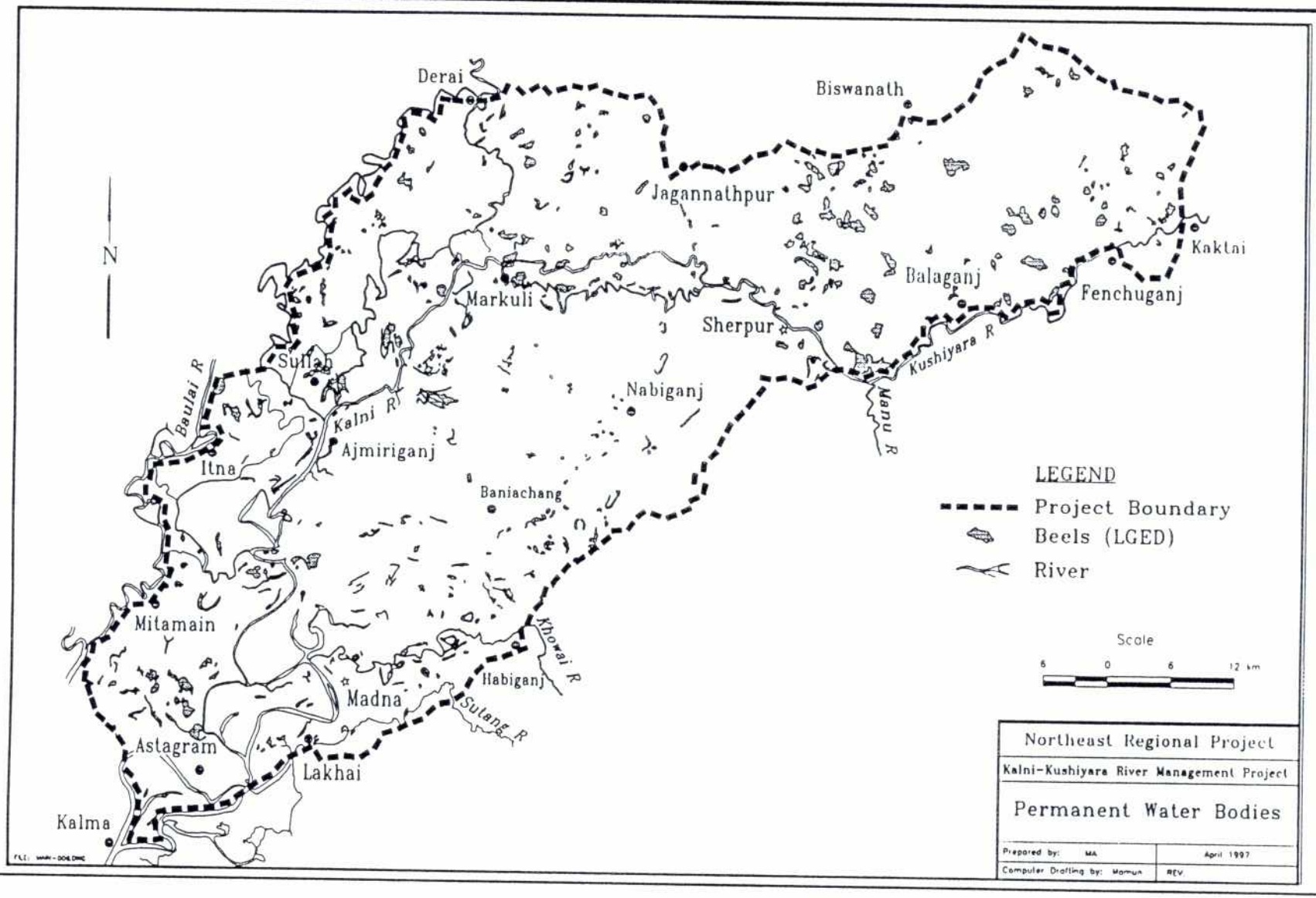




The Seasons of Bangladesh

Cropped Area	Crop Season	Meteorological Season	Month
12	Kharif I *Aus*/deepwater *Aman* Rice Crop	Pre-monsoon	April
			May
3		Monsoon	June
	Kharif II *Aman* Rice Crop		July
			August
			September
		Post-monsoon	October
83	Rabi (*Boro* rice rrop) Traditionally no rice was grown in this season. *Boro* cropping is a recent practice, thus the *Boro* season does not correspond perfectly with the *rabi* season, and *boro* is harvested in May		November
		Dry Season	December
			January
			February
			March

Fisheries: Permanent Water Bodies

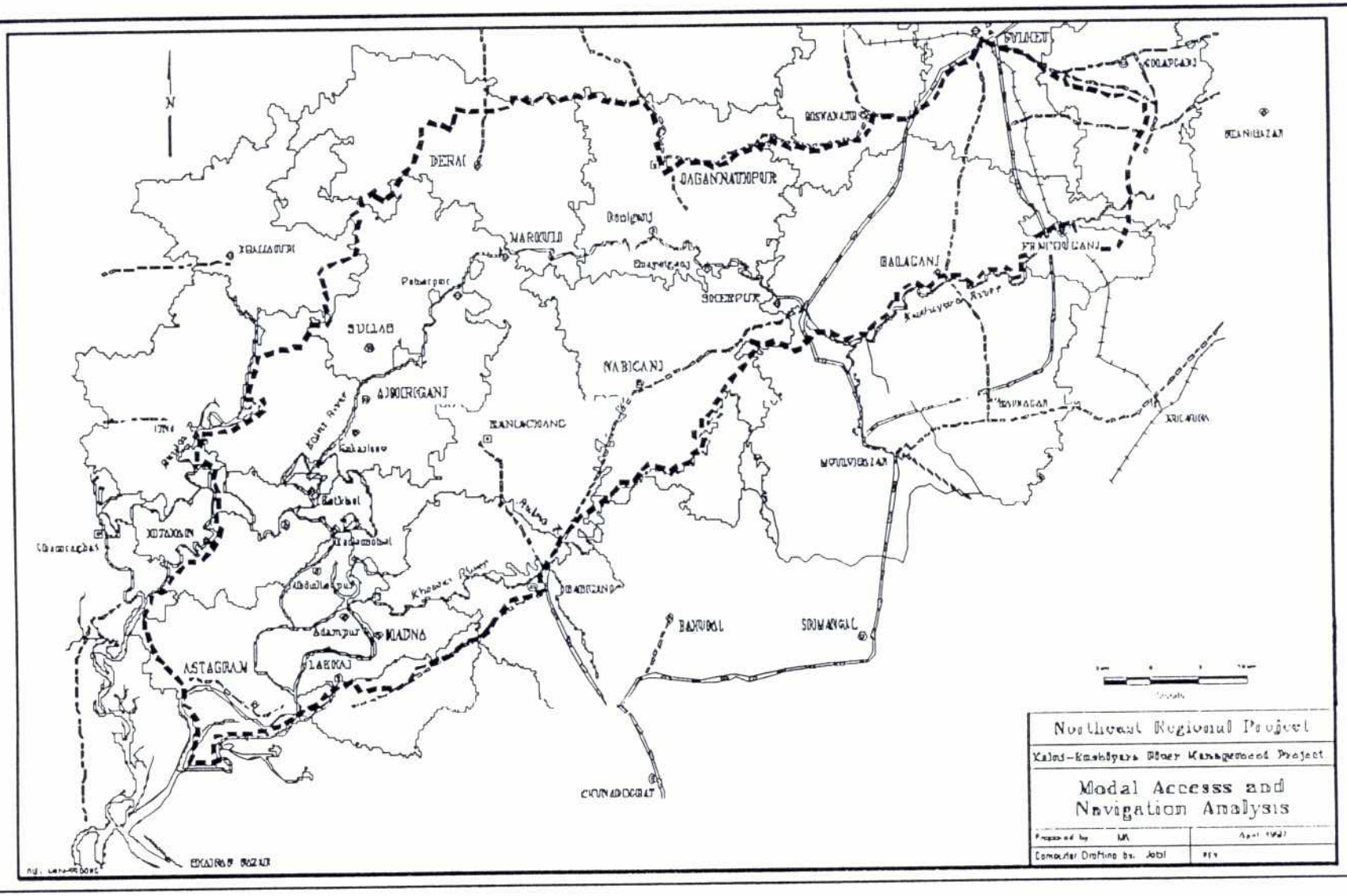


SNC • LAVALIN

nhc

028

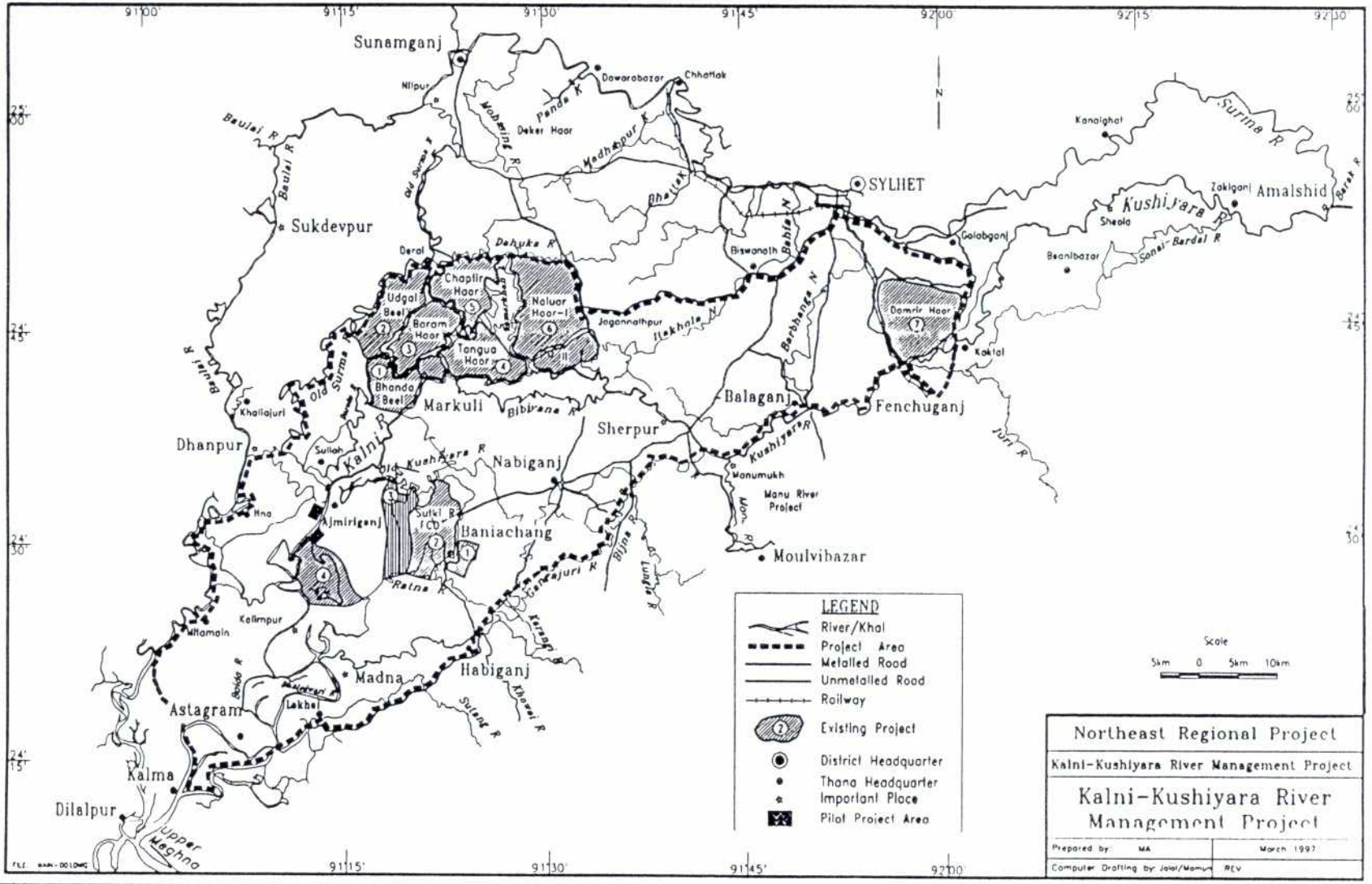
Modal Access and Navigation



SNC • LAVALIN

nhc

Existing Projects in KKRMP Study Area



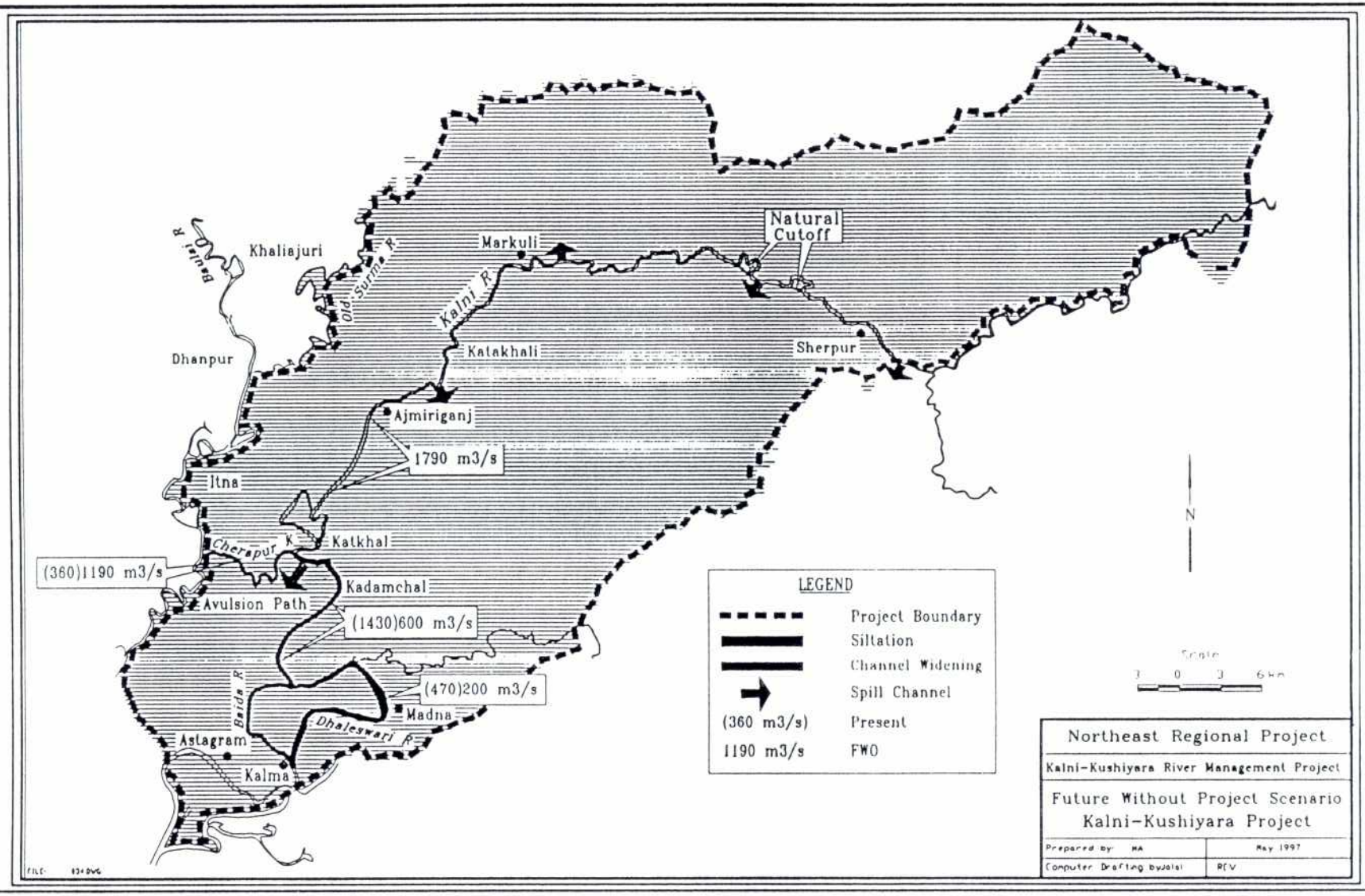
SNC • LAVALIN

nhc

Objectives

- Improve River's Stability
- Reduce Damage to Agriculture
- Improve Living Conditions
- Improve Conditions for Navigation

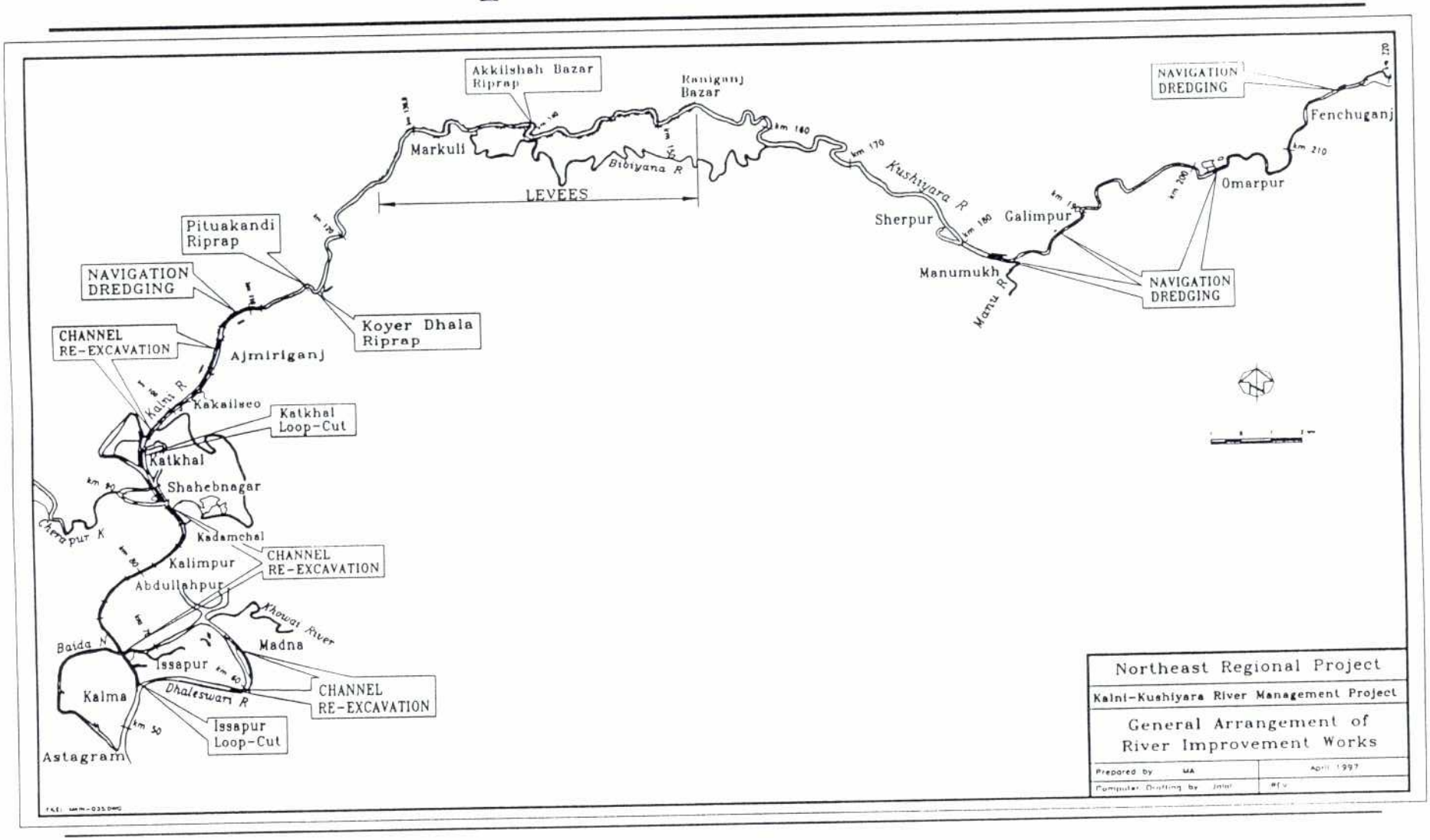
Future Without Project Scenario



SNC • LAVALIN

nhc

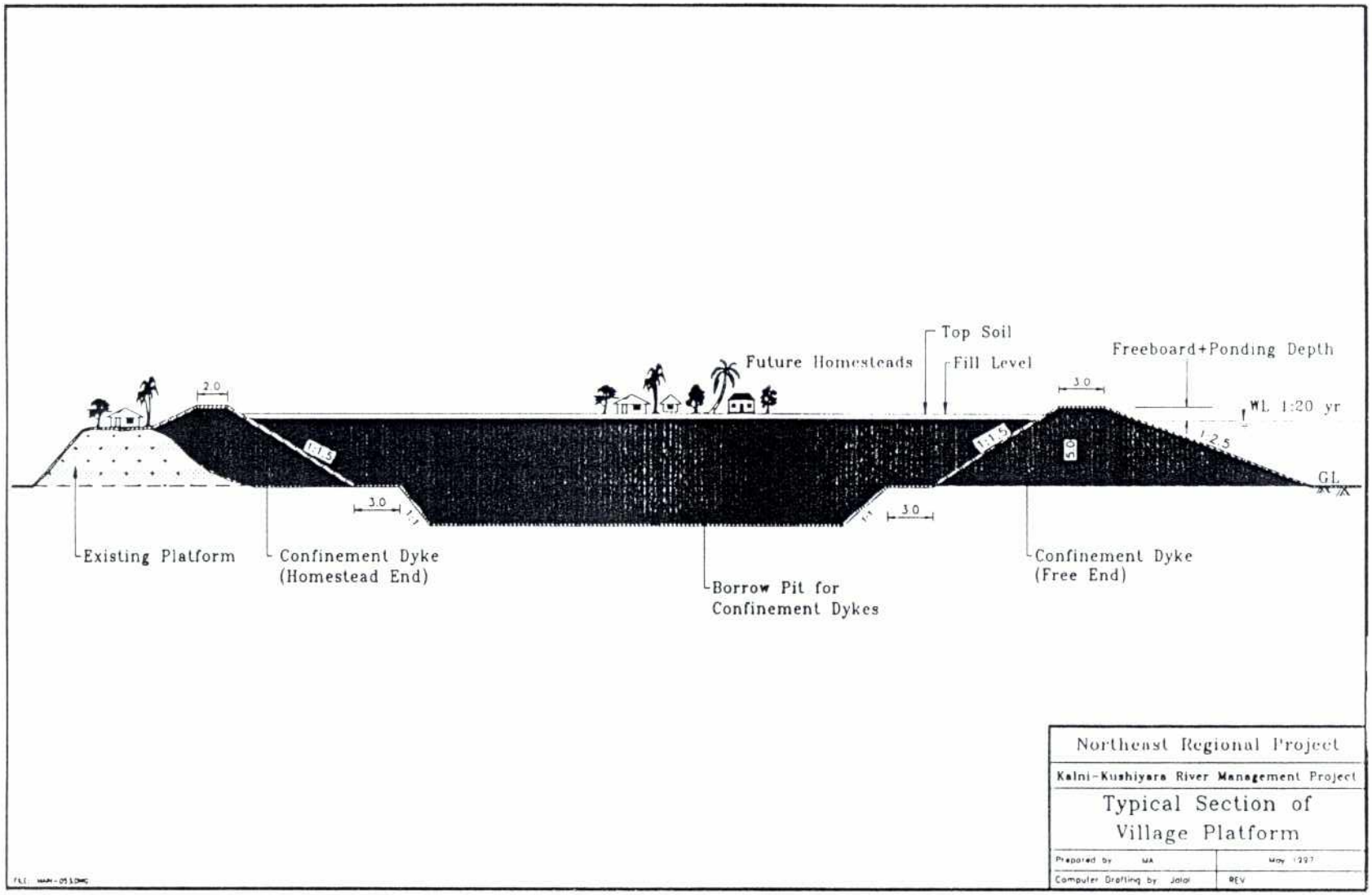
General Arrangement of River Improvement Works



SNC • LAVALIN

nhc

Typical Section of Village Platform



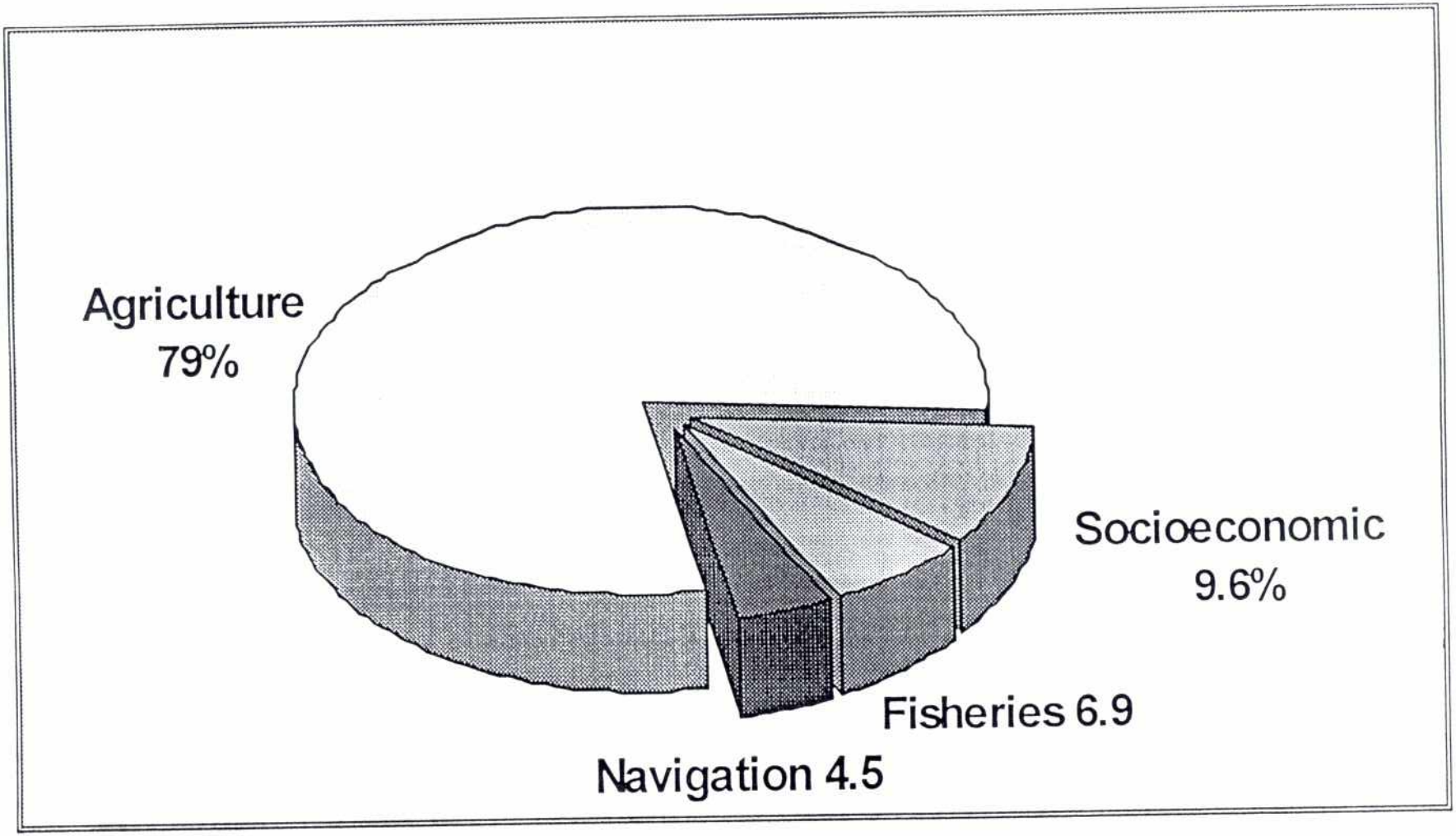
Salient Features

- **Capital Cost**
  - Taka : 2,788 million
  - CDN$: 90 million
  - US$: 68 million
- **EIRR** : 17.2%
- **Net Present Value**
  - Taka : 531.0 million
  - CDN$: 17.1 million
  - US$: 13.0 million

Incremental Project Benefits

◆ Agriculture	:	82,800 tonnes (Rice)
◆ Water Transportation	:	200,000 tonnes
◆ Fish Production	:	1,329 tonnes
◆ Homesteead Platforms	:	84
◆ Kitchen Garden	:	112 ha
◆ Families Benefitted	:	11,560
◆ Landless Settlement	:	1,250
◆ Drinking Water	:	2,600 families
◆ Sanitation Facilities	:	6,000 families
◆ Plantation of Trees	:	200,000
◆ Erosion Protection	:	13,000 households

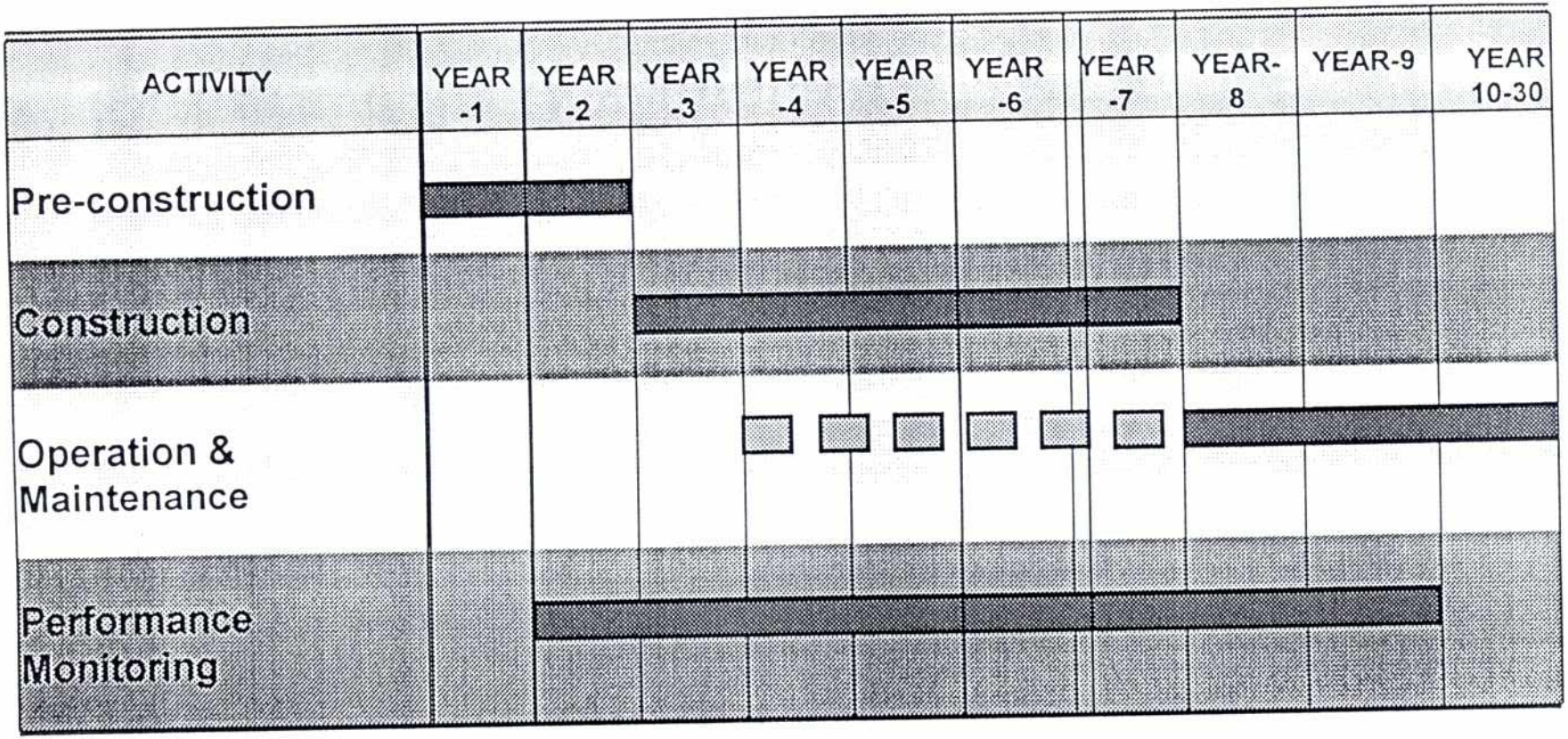
Economic Benefits



Poverty Alleviation

- Increase Per Capita Food Availability
- Reverse the Decline of Fisheries Sector
- Create Flood Secured Homesteads for 11,250 Families
- Provide Settlement for 1,250 Landless Families
- Overall Increase in Annual Employment of 23,000 Person Years
- Encourage the Development of Livestock
- Increase Vegetable and Fruit Production

Project Schedule



SNC • LAVALIN

nhc

Major Ministries & Agencies Involved in KKRMP

Major Activities	Major Ministries	Agencies / Departments
River Stabilization	MOWR	BWDB
Flood Free Platforms	MLGRD&C	LGED, DPHE,BRDB
Navigation	MOS	BIWTA
Land Acquisition & Settlement	MOL	DC, TNO, AC Land
Fisheries & Irrigation	MOF&L, MOA, MOWR	DOF,DAE, BWDB
Environmental Management	MOE&F	DOE,DAE,BWDB, LGED,DPHE,DOF, BRDB

Conclusions and Recommendations

- The Project is considered: technically feasible, economically viable, environmentally sustainable, socially acceptable and a good investment opportunity for Bangladesh
- The project should be implemented as soon as possible
- Monitoring and baseline data collection should precede implementation
- Impacted people must participate in the entire implementation process
- Mitigation and enhancement programs be implemented as an integral part of the project
- Fiscal and institutional O&M responsibilities be determined prior to project implementation

ANNEX E

Issues for the seminar

Issues to be addressed during the Seminar

The critical link between capital funding of the KKRMP and project sustainability. This requires a framework on O&M and organizational structure supported by GOB and Donors.

The emerging support for new approaches to O&M funding and a Capacity Building Structure.

The need to come to an agreement on principles of an approach which serves the interest of GOB & Donors and which will guide the detailed work of the KKRMP implementation

Issues and Concerns

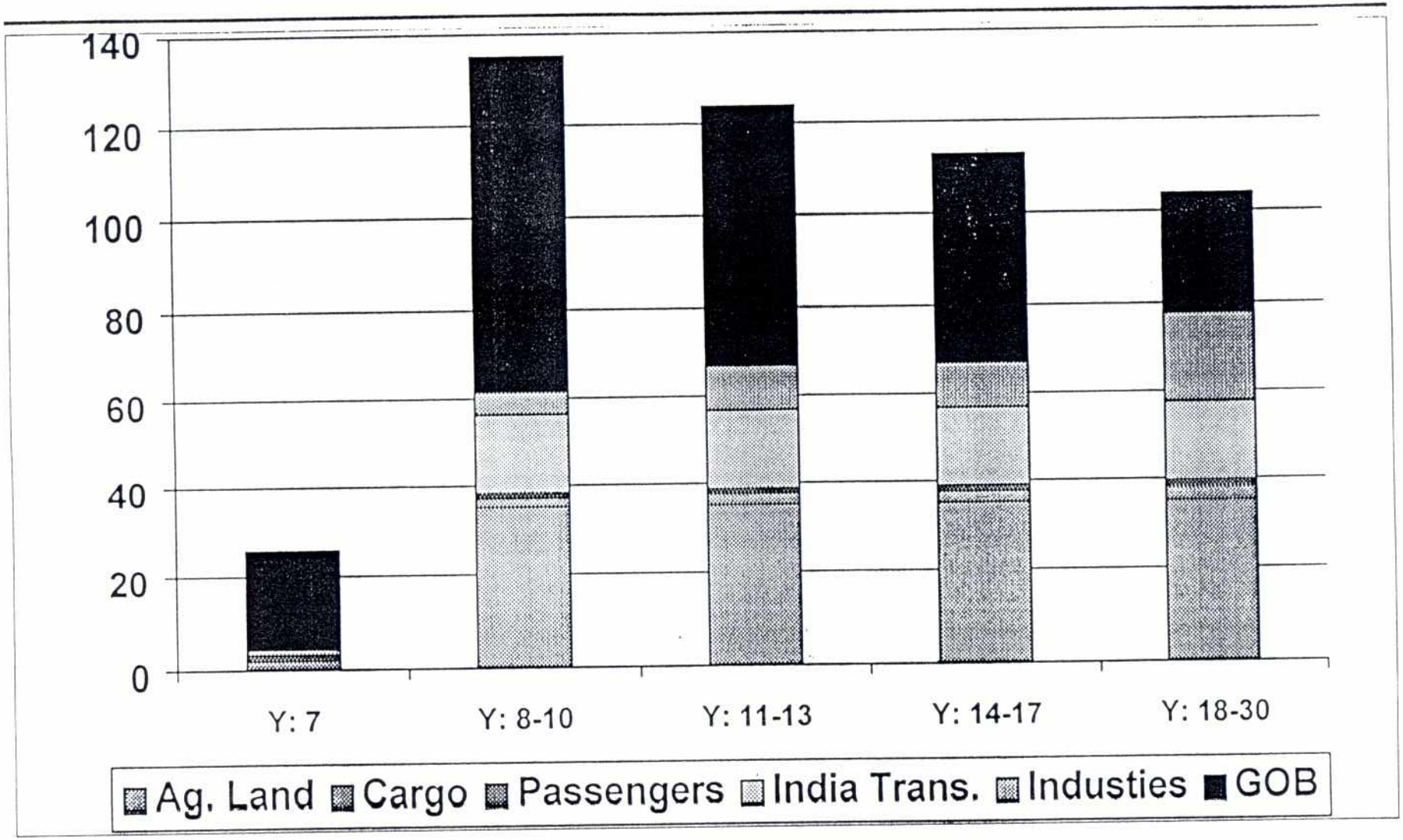
O&M Cost Recovery

- Trackrecord
- Requirements for Sustainability
- Integrated Revenue Strategy
  - → All Stakeholders and GOB Agencies
  - → (i. e. Land Tax, Cargo Fees)
- Insure that Revenues are Credited
- Funding & Expenditures are Transparent
  - → Links to accountability
- Expenditures used for Intended Purpose

O&M Cost Recovery (example)

- Agricultural Land
  - Land Tax = Tk 135 / ha
- Cargo
  - Levy = Tk 5 / Tonne
- Passengers
  - Levy = Tk 0.5 / Passage
- Indian Transit
  - Levy = Tk 100 / Tonne (assumed: rate & constant vol. in time)
- Industries
  - Industrial Tax = Progressive basis
- GOB
  - Treasury Financing: Balance of O&M Financing on a declincing basis
  - Needs to stimulate Regional Economic Development

O&M Cost Recovery (example)



SNC • LAVALIN

nhc

Issues and Concerns

Institutional Framework Requirements

- Able to deliver a coordinated effort
  - → Dredging, platforms, breaches
- Strong Centre of Integration
  - → Bottom up + Top down
- Able to Maintain Independent Financing
- Able to Manage an Integrated Revenue Strategy
- Links to all Levels: Local, Regional & National

ANNEX F

PAPER: Bangladesh Government Policy & Practice of Cost Recovery in Water Sector Projects

BANGLADESH GOVERNMENT POLICY AND PRACTICE OF COST RECOVERY IN WATER SECTOR PROJECTS

Shofi Uddin Ahmed
Add. Chief Engineer
O&M, SRP, BWDB

1. Introduction:

The Government of Bangladesh (GoB), through BWDB, has so far completed 544 projects, of which 24 are recognized as irrigation projects. The chronic budget shortfall for O&M has resulted rapid deterioration of the infrastructures, leading to unsatisfactory project performance and benefit. The gap in O&M funding under revenue budget is widening every year with the addition of completed projects in the profile.

In the backdrop of such a budgetary position, the GoB has so far introduced water rates (WR) under Acts and Rules for O&M cost recovery in 14 irrigation projects. In some coastal embankment polders, shrimp culture tax is going to be introduced. Other completed projects which were developed for FCD still remain outside the purview of WR.

Annual budgetary O&M costs of the 14 notified irrigation projects amount to about Tk. 385.00 million, against which water rate collection during 1995-96 is about Tk. 18.67 million, which is about 5% of the budgeted O&M cost. GoB is seriously concerned about the present O&M funding situation and has been examining various options including water rate collections to raise O&M funds for accruing benefits of the investment through optimum operation of the projects.

2. Policy and Law on Cost Recovery:

The cost recovery is not a new concept in Bangladesh. It started in 1963 through imposition of water rate under erstwhile East Pakistan Irrigation Water Rate Ordinance, 1963, followed by Rules in 1966. Under the ordinance the water rate was proposed to be assessed at 10% of the gross incremental benefit of agricultural production accrued to owners/occupiers. The assessment and collection were rested on Revenue officer appointed by the government. The assessment criteria were revised in 1976 and set at 3% of the gross incremental benefit. The Executive Engineer (XEN) was made preliminary assessing authority and the Deputy Commissioner the final assessing authority who would be responsible for its collection through Tahsil (revenue) offices. The assessment and the collection under the ordinance were Tk 45.36 and Tk 1.18 million respectively. The collection stood at 2.6% of the amount assessed. This was not successful due to complexity in assessment, dual responsibility, etc.

The 1963 ordinance was replaced by Bangladesh Irrigation Water Rate ordinance, 1983 and subsequent water rate rules were promulgated in 1984. The assessment of water rate has been fixed at per acre per irrigation season. The XEN has been assigned to act as assessing authority. The water rate should be collected by such officer and employee of the Board authorized for the purpose or by such person or group of persons as the Board, after obtaining previous approval of the government, considers it expedient for such collection. Accordingly the water rate collection was entrusted to water users organization/KSS/outlet committee. The remuneration is to be paid for collection of water

rate by any person or group of persons who is not an officer or employee of the Board. Incentive to the owner/occupier has been provided in this ordinance with rebate @ 20% and @10% of the rate payable if the payment is made within 30 and 45 days respectively, otherwise 15% interest will be charged after the due date of payment. The assessing authority may stop the water supply to a defaulter's land for not making payment of a particular crop season before the next crop season commences. All arrears of water rate, together with interest and costs, if any , and all penalties under this ordinance shall be recoverable as public demands. Under this ordinance the assessment and collection were Tk 207.47 and Tk 13.15 millions respectively from FY1976-77 to 1992-93. The collection stands to 6.5% of the assessed amount. The procedure of assessment was still lengthy and the collection was poor due to the farmers organization did not take interest in this sort of unpleasant job.

Subsequently, as per decision of National Implementation Committee for Administrative Reforms (NICAR), 4 upa-zila (Police station/Thana) were taken as pilot cases for collection through revenue department (Tahsil office).The performance was poor. Only 1.14% of the assessed amount was collected. Considering unsatisfactory achievement of the water rate ordinance, 1983 and subsequent rules, 1984 and to involve project beneficiaries with a view to sharing the burden of O&M and to ease assessment and collection of water rates, the government, in 1990, made amendment to the water rate ordinance, 1983, promulgated water rate rules in 1992 and published guidelines in 1995. The main features of rules are: i) annual assessment on the basis of rated capacity of equipment or outlets, ii) groupwise collection through WUA/WUG and iii) water rate on the basis of O&M costs.

3. Results and lessons from previous experiences:

- Water rate is defined as a government tax, not related to actual O&M expenditures,
- Individual assessment involved heavy workload and huge manpower; procedural complexities existed,
- Often inadequacies in water supply demotivated users to pay,
- Financial constraints to provide necessary funds to maintain irrigation infrastructures,
- Prevailing default culture to pay any govt. tax or service fees,
- No mechanism to plough back the collected water rate to the system to meet O&M expenses,
- Lack of application of punitive measures against the willful defaulters,
- Water Board itself had limited interest in cost recovery, as fund allocations

did not depend on it,

- Absence of participation of users contributed to perception of rate as a tax, which did not serve their interests in good operation of the system.
- Lack of political commitment.

As a result of the above factors actual collection was usually very poor.

4. Present policy context:

At present cost recovery for irrigation O&M in Bangladesh is to be seen in the context of the following policy considerations:

- Decreasing the financial burden for the government,
- Increasing the available funds for O&M,
- Increasing O&M performance.
- Improving productivity of investments,
- Promoting sustainable organization of O&M through users participation.

Complex interrelations exist between these objectives. In the framework of SRP increasing O&M performance is the leading objective and has directed the development of the new cost recovery arrangements.

5. Revised Water Rate concept:

Assessment and collection principles are as follows :

- Water rate is paid by the end-users,
- Annual O&M costs form the basis of assessment of water rate,
- A licensing system is used to regulate use of water and create basis for application of punitive measures,
- Water rate is assessed, billed and collected on group basis,
- Total rate billed to a group is determined on the basis of a rated capacity of the pump or outlet,
- Rate is collected from individual water users by a water rate collector nominated by the group and/or appointed by the BWDB,
- Failure to pay adequately results in fines and finally in cutting off water supply or confiscation of pump,
- A collection incentive is allowed of maximum 20% (additional) over the assessed rate.

6. Pilot project experience on cost recovery:

The past attempts for imposition, assessment and collection of water rates did not succeed because of, amongst other, absence of participation of water users, poor O&M service and procedural complexities. At this, the government was worried and at the same time committed to develop a sustainable cost recovery mechanism. Therefore, it was decided to practice the amended Act, 1990 and Rule, 1992 as a pilot case in Ichamati unit of Kamafuli Irrigation Project (KIP) with intensive TA support from the government of the Netherlands under System Rehabilitation Project (SRP), before its application in all the irrigation projects.

Under the pilot programme, the actual collection of water rate was introduced in 1993-94 and the status of achievement was as follows:

(in lakh Tk.)

Year	Target	Achievement	Collection ratio (%)
1993-94	8.10	1.11	13.70
1994-95	8.10	2.29	28.27

1995-96	7.96	1.62	20.35

General observations:

- All WUGs nominated collecting agents. In most cases, the pump owners did the job and they continued to pursue their own interest while participating in the cost recovery.
- Incentive in the form of rebate was allowed for advance payment but none availed it.
- Consolidated demand notices were served on the WUGs but they didnot serve the demand notices to individual farmer. This seems to be a burden on them.
- 20% additional charge as collection cost was regarded as burden on the water users.
- Depositing the collected water rate in banks by the agents is feasible.
- Arrear dues on water rate can be realized under PDR Act, if situation demands, but implementation of the provision of law in the field is difficult.

The pilot experience in KIP has developed the participatory approach for improved O&M service and cost recovery mechanism. Many strengths and weaknesses have also been identified. Two important lessons are:

- Cost recovery should not be looked upon as an element in isolation, and it should be integrated in O&M activities with water users participation,
- Gradual introduction of the cost recovery concept is feasible.

7. National seminar on cost recovery:

A national seminar was organized on August 23, 1994 with all relevant agencies, consultants and representatives of WUOs to exchange the experiences of the pilot project. The major conclusions of the seminar are :

- Past experiences in cost recovery through a tax approach in Bangladesh did not work as benefits of the service for which tax is levied were not reliable. Also general conditions for tax collection in Bangladesh and similar other regional counties are unfavorable.
- Creation of a closer link between service delivered and financial contribution by the user is a possible answer which will stimulate improvement of services and oblige users to pay water rate. In such case a more direct organizational relation between system managers and system users requires to be created.
- Experiences in the pilot project have shown that a proper matching

between IO&M, WUO and cost recovery activities is essential for the success.

- Commitment of BWDB/GoB for adequate O&M.
- Information campaign and training activities to explain and win support of WUO and cost recovery is necessary.
- Application of procedures and practices of IO&M in BWDB is necessary to create involvement of water users and improvement of O&M performances.
- The concept of cost recovery through WUO should be borne on right from the beginning, but be implemented as the last element. Any attempt to introduce cost recovery without active WUO and without creating confidence of IO&M performance, may fail for reasons experienced in the past.
- Sufficient time to be allowed to develop WUO.

8. Awareness campaign:

Collection campaign needs to be organized at project level by BWDB along with representatives of WUOs and water rate collectors. Motivation campaign is one of the effective tools to change the attitude and encourage the users to pay. Besides comprehensive programme needs to be undertaken through mass media like radio, TV, newspaper, posters, booklets etc. To encourage the users to participate in O&M activities and pay water rate.

9. Punitive measures against defaulters:

As per Bangladesh Irrigation Water Rate (Amendment) Act, 1990 all arrears of water rate, together with interest and costs if any and all penalties are to be recovered as Public Demands. In the water rate rules, 1992 under the Water Rate Act, it is provided that the defaulters for payment of water rate either individual or executive of the association/group would be charged for misappropriation of money and his/their pumps will be confiscated or turn out/outlet will be closed.

Problems in implementation:

- Arrear dues recovery as public demand is a very lengthy process and involves extra expenditure on the part of BWDB. It is not considered effective for mass defaulters.

- Confiscation of pump or closing of turn out/outlet is not possible without legal provision and help of the magistracy. Initiation of criminal cases against the delinquents is also time consuming and lengthy.

It is considered that a strong punitive measures is not an answer to the improvement of successful cost recovery. In the above context the following procedures by amendment of existing act and rules are considered to be more effective :

- Permission for the use of pumps for lifting irrigation water will not be given unless water rate is paid in advance primarily on the basis of pump capacity by the individual or group.
- In case of gravity system WUG will be permitted to use irrigation water through the outlet on full payment of water rate in advance and primarily fixed on the basis of the command area of the outlet.
- Magistracy services will have to be engaged at the beginning of the irrigation season to prevent unauthorized lifting of irrigation water.
- Adjustment of the WR paid in advance will be allowed at the end of the irrigation season according to the actual irrigation area under each pump/outlet.

Under the above procedures, it is expected that the defaulters will be reduced and applying the public demands and other measures, if required at all, will be easier. Initially, considerable effort will be necessary at the beginning of introduction of the above procedure, but, less effort will be necessary afterwards when the water rate paying culture is developed.

10. Alternative Policy:

Considering the Socio-Political conditions in Bangladesh and poor response of the beneficiaries in Water Rate Collection, the success of the same is still bleak. In this context there are alternative thoughts that for water development projects Water Development Fees (WDF) on area basis may be levied to all land owners under the project command area in the line of development taxes collected with the land taxes. The WD fees for irrigation projects & FCD projects may be fixed at the different standards. The WDF be collected through the Revenue Department of the government like land revenue & other development taxes. This will reduce collection cost and other complicacies.

The government is thinking to lease out of the selected portion of the system for water rate collection on experimental basis. The idea is still premature as this may hamper the institution development of the beneficiaries.

11. Strategy to application of law and rule:

The application of this policy/ strategy shall bring about a significant improvement in the implementation of cost recovery programme in water development project with the support of all allied agencies.

- The Revised water rate concept is a logical one, which can be operated with a number of important advantages as compared to earlier systems and is accepted by the farmers. However, the amendment of the ordinance and rules will make it more effective.
- Integration of cost recovery in O&M frameworks shall create a setting of mutual obligation. This provides a bottom-up approach for improved water delivery and maintenance.
- Water users are capable to play a constructive role to better O&M and realizing cost recovery in the form of representation and involvement.
- Careful balance of WUO, IO&M and CR activities is required. CR concept should be borne from the start but be implemented when sufficient O&M improvements have taken place and WUO in the system developed.

12. Relevance to KKRMP:

The Kalni-Kushiyara River Management Project has the components:

- River stabilization works,
- Flood control works,
- Navigation channel improvements,
- Village homestead platforms, and
- Implementation of an environment management plan.

The KKRMP is of FCD nature of project. The government, uptil now, has not imposed any water rate in FCD projects. The existing laws and rules of the government only relate exclusively to irrigation project. But the erstwhile East Pakistan Irrigation Directorate imposed toll collection system for navigation of water crafts and cargo transportation in its

"Madaripur Beel Route" project. Similar system may be imposed to meet the annual dredging and river stabilization O&M costs in this project. For limited irrigation facilities by lifting water from the rivers through LLPs, possibility of imposing water rate as per existing laws and rules on the groups/associations to be formed on the basis of GPP may be explored. A development tax for O&M of homestead platforms may be in place by the local govt. agencies and NGO participations. The government may lease out the local water bodies for fisheries and the lease money may be utilized to supplement the O&M costs.

ANNEX G

KKRMP SEMINAR:
Results from Business Session 1B
Criteria for Success -
Cost Recovery

FLOOD ACTION PLAN

Northeast Regional Water Management Project (FAP 6)

Kalni-Kushiyara River Management Project (KKRMP) Seminar

December 8 - 9, 1997

Results from Business Session 1B: Criteria for Success - Cost Recovery

- Appropriate Laws to implement the cost recovery elements of the project;
- Stakeholders and beneficiaries of benefits must be involved from the beginning. In particular, community level institutions must be involved to build support and ownership and to play an active role in execution;
- Where appropriate, beneficiaries must receive the intended benefits on a timely and consistent basis to maintain credibility and willingness to pay;
- Costs sharing between parties, eg landowners, transportation operators, GOB etc. must be based on benefits received as well as ability to pay;
- A political mandate and agenda is essential to implement the proposed cost recovery program and to build support at community levels for participation in costs;
- Both direct and indirect cost recovery should be considered;
- There must be transparency and accountability in expenditures including use for intended purposes, eg dredging;
- Administration must be cost effective, feasible and practical.

ANNEX H

PAPER: Issues relating to implementation of multi-sectoral water management projects & associated problems

INSTITUTIONAL ISSUES RELATING TO IMPLEMENTATION OF MULTI-SECTORAL WATER DEVELOPMENT PROJECTS AND ASSOCIATED PROBLEMS

M.A. MANNAN
Joint Chief (Irrigation)
Planning Commission

Bangladesh having a population of 120 million (1995 estimate) and a net cultivable land of 9.03 million hectare is striving for developing the socio-economic conditions of the country. Water, the most vital natural resources of the country, is closely inter-linked with other sectoral development programmes, and as such, water resources development strategies and policies, are to be formulated keeping in view the multi-sectoral dimension, for judicious and optimal utilization of the resources. Excess water during monsoon season and its scarcity in the dry season create the complexity of sustained development of the agro-based economy of the country. In this context, the institutions to be assigned for implementing their respective sectoral programmes and the lead institutions who will coordinate the activities of different sectors are very important in order to derive the optimum benefits from the project and to make its activities sustainable after implementation.

Sustainability of water resources development projects may be attributed to an efficient management system which will ensure the production inputs for the beneficiaries to shoulder the responsibility of operation, as well as, normal maintenance of the project facilities. In other words, after completion of a development project its operation should not depend upon revenue budget of the government. The expected benefits, as outlined in the approved project document, atleast for the life period of the project, should be maintained through direct involvement of the local level management to make the project a sustainable one. So, the selection of institutions/agencies for implementation of a

Water Sector project and to make them sustainable depend on a number of issues. Some of these issues and associated problems are elaborated in the following paragraphs:

1) INTER AGENCY COORDINATION

Water resources development projects involving multiple agencies/departments are often found to be slow-moving project. For lack of inter-agency coordination specific work programme of a particular agency, if not taken up in time, will lead to delay in execution of work of other agencies. This leads to both time and cost over-run of the project though the targetted benefits of the project remain unchanged.

2) BUDGETARY ALLOCATION & PP PREPARATION

For such projects, having multi-sectoral components, separate project proformas are usually prepared by the participating Agencies/ Ministries for approval by the competent authority. If processing of such PPs are not done in time and necessary funds are not allocated in the ADP, commensurate with work schedule, implementation of the project is supposed to be delayed.

3) SELECTION OF CONSULTING FIRM AND FIELDING OF CONSULTANTS

Selection of consulting firm and fielding of consultants usually take long time and as a result delayed implementation of work programme hampers the physical progress of the project. This requires rescheduling the work plan and also extension of the project implementation period. This will ultimately lead to cost over-run and consequently, the economic viability of the project may be questionable.

4) ENVIRONMENTAL ASPECTS

Study on environmental aspects should be done properly and carefully for all water sector development projects, so that it does not create any negative impact on other sectors of the economy. It has been found that after detail feasibility study, projects are formulated and implemented. But from past experience, it has been found that some projects have created adverse impacts to other sectors, though the project was duly appraised. Consequently, mitigation measures are required to be taken up by spending additional fund. So, environmental aspects should be given adequate consideration during appraisal of the project.

5) LAND ACQUISITION AND PERFORMANCE OF ASSIGNED RESPONSIBILITY BY RESPECTIVE AGENCIES IN MULTI-SECTOR PROJECT

Land acquisition and preparation of resettlement plan, construction of rural roads, implementation of public health and sanitation programmes, environmental upgrading, construction of embankments & irrigation infrastructure, re-excavation of khals, dredging of navigation channels, etc. are activities of different agencies in a multi-sectoral projects. Such activities require co-ordination or implementation in a co-herent manner. If one such assigned tasks remain un-finished or moves slowly during the project period, the ultimate objective of the project will not be achieved or otherwise, the project implementation would be delayed. So, the role of the lead Agency as co-ordinator and the Project Management Committee at the field and regional level in managing the project activities should be spelt out in the project document in clear terms for closely monitoring the project.

6) BENEFICIARY CONSCIOUSNESS VIS-A-VIS MANAGEMENT RESPONSIBILITY

As the fund required for operation and normal maintenance of the project is to be collected from the beneficiaries of the project, they should be well informed of the activities under the project, as to what the project would provide for them and what will be their responsibilities in return. Before payment of money or offering his service, the subscriber or the beneficiary will confirm his share/benefit out of the project. As the desires of different sections of the society are different, in some cases conflicting, it will be the responsibility of the local/regional Project Management Committee to prescribe redressal/solution of the conflicts for sustainability of the project.

7) SHORTAGE OF REVENUE BUDGET

Due to shortage of revenue budget of the Govt. required fund is not available for proper maintenance of the water sector development projects. As a result, the created facilities under a completed project begin to deteriorate and ultimately, need for a substantial amount for rehabilitation. If the required amount could have been allocated at proper time, the expected benefits from the project would have been continued. Analyzing the causes of failures of some of the completed development projects, it has been found that the primary objective should be to decide about the source of O&M funds before the project is taken up for implementation.

8) PEOPLE'S PARTICIPATION

Due to shortage of O&M budget, the completed projects of BWDB could not derive expected benefits. During 1980's it was contemplated to handover some small projects to Upazilla Parishads, but due to resource constraint and meagure

budgetary provision of the Upazilla Parishad, it was not possible. Therefore, emphasis on people's participation in the project was considered appropriate right from planning, designing and execution stage. NGOs participation in motivating people of the project area was also found to be useful in many development projects. It may be mentioned that under Flood Action Plan (FAP) management aspects of completed projects have been studied and a people's participation guidelines (PPG) formulated.

9) WATER USER'S ASSOCIATION (WUA)

In many Water Resources Development Projects formation of Water Users Association (WUA) has been made compulsory during execution of the project. It is assumed that WUA will be associated in Project Planning and execution so that they can take the responsibility of operating the projects after completion. Other stake-holders in the project area should also be involved in operation & maintenance of the project and they should be properly trained in the respective fields of O&M.

Issues & Problems Relating to Kalni-Kushiyara River Management Project

(i) Pre-monsoon and monsoon floods

Pre-monsoon floods damage the boro crop which is the principal crop in the project area. Besides, monsoon floods cause widespread damage to lives and properties leading to economic loss to various sectors of the rural economy. Feasibility report suggests that improved channel stability and decrease in flooding will increase agricultural production leading to per capita food availability from 0.66 kg/day/person to 0.75

kg/day/person. But the cropping pattern and the institutions to be involved in agricultural extension activity needs further elaboration. Similarly, institutional arrangements for fisheries and livestock development in the project area need to be spelt out.

(ii) **Channel shifting and bank erosion**

Channel shifting and bank erosion have destroyed many villages along the river system and many peasant families have become landless and refugees. Project initiatives suggest construction of village homestead platforms to rehabilitate landless families on the flood-secure village platforms. Identification of the landless and rehabilitation of the landless families is a complex task, which institutions would be assigned for such activities and financing arrangement in this regard should have been indicated.

(iv) **Navigation**

Shoals and shallow reaches restrict navigation between January and March. As a result, navigation route between Kalma and Madna do not have required water depth for navigation. So regular maintenance dredging, is needed to make the route navigable through out the year. BWDB or BIWTA do not have the required fund to carry out systematic channel maintenance or stabilization measures on the main river system. After completion of the project, institutional mechanism and funding arrangement for regular maintenance dredging are crucial issues for consideration. Partial re-excavation of channel by local people, if needed, also need to be resolved as a part of operation and maintenance of the channel.

(v) **Institutional Framework for Project Management**

Land acquisition is a delaying process. Particularly, acquisition of khas lands suitable both for disposal of dredged spoil and for rehabilitation of the landless people is a problematic issue. This requires active support of political leaders/Member of Parliament, as well as, local influential persons. Ministry of Land has a crucial role to play particularly, for acquisition of required quantity of land including khas lands and also to formulate a resettlement plan. Besides, for overall management and monitoring of the project by a high level steering committee at the national level, a project management committee, comprising representatives from concerned Departments and Agencies at the field/regional level are to be constituted for effective co-ordination and successful implementation of the project.

(vi) **Participation of Beneficiaries in O&M**

As the BWDB's O&M budget is inadequate to meet the regular operation and maintenance of their numerous projects, beneficiary participation in project development and O&M activities right from the beginning should be given highest priority.

REFERENCES

1. Conway, G.R and Barbier, E.B.(1990). "After the Green Revolution", Earthscan Publications Ltd., London.

2. FAP (1993) "Kalni-Kushiyara River Management Project", North-East Regional Water Management Plan, (FAP-6).

3. FAP (1997) "Kalni-Kushiyara River Management Project Feasibility Study", North-East Regional Water Management Project (FAP-6).

4. FAP (1997) "Kalni-Kushiyara River Management Project Feasibility Report - Capacity Development (Annex-K) and Project Management Plan (Annex-L)", FAP-6.

5 FAP-13 (1992) Operation and Maintenance Study (Volume-1).

6. MPO (1986) "Irrigation and Flood Control Project Preparation" Technical Report No.23.

7. Planning Commission (1997) "Draft Fifth Five Year Plan", Planning Commission, Ministry of Planning, GOB, Dhaka.

8. Thomson, et al.(1987) "Strategic Management Concepts and Cases" Harvard Business School.

ANNEX I

KKRMP SEMINAR:
Results from Business Session 1B
Criteria for Structure for
O&M Phase

FLOOD ACTION PLAN

Northeast Regional Water Management Project (FAP 6)

Kalni-Kushiyara River Management Project (KKRMP) Seminar

December 8 - 9, 1997

Results from Business Session 1B: Criteria for Structure for O&M phase

- There must be a clear and visible organizational focus with the appropriate level of independent resources, political will and public accountability;
- Sets out the work distribution of responsible organizations, the critical path and timelines; eg dredging, platforms, breaches;
- Resources of each contributing organization must be designated to this structure;
- Linkages are required horizontally (multi-sector) and vertically (local, regional, national) to all appropriate parties so that there is a capacity to integrate Top-down and Bottom-up activities;
- There must be capacity to manage and coordinate an integrated revenue strategy as appropriate at each level, national and local;
- The management structure and scale must be appropriate to the geographic scope of authority; i.e. national ministry versus thana;
- There must be a clear monitoring and feedback process supported by a management information system;
- The decision structure must be capable of competent decisions;
- The structure must be developed during the implementation phase.

ANNEX J

Presentation:
Experience from other countries

Lessons From Other Jurisdictions

- The multi-sector dimension is a common experience
  - Flood protection
  - Navigation
  - Community development
- Trend towards a watershed-wide approach to respond to the natural resources challenges that cross political boudaries.
- Typically:
  - Single body coordinates multi-actors
  - Level of authority = Level of issues
- Models integrate: objectives, O&M activities and funding strategies.
  - Navigation - Dredging - Fuel Tax

Grand River Conservation Authority

Name/ Country/ River	Organization	Mandate	Work Carried Out	Cost Recovery Method
Grand River Authority / Canada / Grand River	Government body composed of members from each municipality in the watershed and staffed with professionals.	Manage land and water resources in the watershed; reduce flood risk.	Set Policy, develop plans, prepare budgets, arrange financing and collect fees. Through contracting out: river channel improvements, dyking, bank stabilization, flood proofing and purchase of flood-vulnerable lands.	O&M budgeted annually based on precedent, known conditions and surveys as required. Funded 50% by the Authority and 50% by the Provincial government.

Santa Cruz County

Name/ Country/ River	Organization	Mandate	Work Carried Out	Cost Recovery Method
Santa Cruz County / USA	Flood Control District (administrative), operating under County Board (elected).	Protect floodplain occupants from flooding.	Monitor, construct & maintain flood control works - primarily dykes.	Recovered through a variety of taxation methods.

Coast Guard, Public Works & Harbour Commission

Name/ Country/ River	Organization	Mandate	Work Carried Out	Cost Recovery Method
Coast Guard, Public Works & Harbour Commission / Canada / Fraser River	Coast Guard & Public Works are local offices of country-wide federal government institutions, staffed by a variety of professionals: Harbour Commission is a local corporation responsible for complete port management.	Maintain minimum navigation channel depth; *transitioning* to maintaining required navigation channel.	Coast Guard/Public Works: channel depths; dredge - through contracting to private sector. Harbour Commission: needs analysis, manage dredging, cost recovery planning.	Currently: financed partly from federal government through annual budget appropriations and from sales of dredged spoil. Near future: full costs recovery from sales of dredged spoil and user fees / charges for various harbour infrastructures and properties.

Tennessee Valley Authority

Name/ Country/ River	Organization	Mandate	Work Carried Out	Cost Recovery Method
Tennessee Valley Authority / USA / Tennessee River	Federal Corporation staffed by a variety of engineers and other professionals.	Development & management of river for power production, navigation, flood control, recreation and water quality.	Monitor dam conditions and safety; monitor water availability, quality and levels in reservoirs and river channels. Develop, maintain and improve infrastructure as required.	Financed annually by federal government appropriations. Local entities fund O&M of completed projects from local general revenues. Federal fuel tax for commercial navigation goes to national trust to pay for future new projects.

Mississipi River Commission

Name/ Country/ River	Organization	Mandate	Work Carried Out	Cost Recovery Method
Mississippi River Commission / USA/ Mississippi	7-person executive body, directed by US Army Corps of Engineers, USACOE	Manage the main channel for flood control and navigation	Monitor hydrotechnical status of river; forecast required annual works; construct, rehabilitate and maintain dykes; dredge to maintain minimum navigation channel depth. Work done by 4 different USACOE Districts	Navigation dredging: Federal government provides annual appropriation from general taxation revenues. Navigation rehabilitation or facilities replacement: financed from fuel tax levy on barge-cargo traffic. Flood Control capital work financed 50-50 from federal and local government; O&M from local government only