

**Work Plan (Edited Summary)**

**Netherlands Climate Change Assistance Program  
Phase II (NCAP)**

**Promotion of adaptation to climate change  
and climate variability in Bangladesh**

**Submitted by  
IUCN – The World Conservation Union  
Bangladesh Country Office**

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# Work Plan

## Promotion of adaptation to climate change and climate variability in Bangladesh

### 1. Introduction

#### 1.1. Background

Bangladesh faces multiple manifestations of climatic change and climate variability (e.g. flood, cyclones and storm surges, sea-level rise, drainage congestion, salinity increase and drought etc) and is one of the most vulnerable countries in the world. Given the contribution of agriculture to the livelihoods of common people of the country and its dependence on the climate regime, any significant change in climatic condition can have far reaching impacts on the overall human system: the production system, people's livelihoods, income potential and employment.

A 10% increase in monsoon precipitation due to climate change in Bangladesh could increase runoff depths by 18 to 20%, resulting in a sevenfold increase in the probability of an extremely wet year. Since climate models predict an increase in monsoon precipitation by 11 and 20 percent by 2030, it follows that surface runoff is likely to increase in the order of 20 to 45 percent, respectively (IUCN, 2002). It is also reported by IUCN (2002) that, by the year 2030, an additional 14.3% of the country will become extremely vulnerable to floods, while the already flood-vulnerable areas will face higher levels of flooding. On the other hand, lower precipitation, during the dry season, in combination with higher evaporation will lead to increased withdrawal of surface water. Low flow conditions of the rivers will be subsequently accentuated.

Bangladesh will also be at risk of droughts. Effect of climate change induced moisture stress will result into drought like situation especially in the north and western part of the country. It is found that, under a moderate climate change scenario, *Aus* (pre-monsoon paddy) production would decline by 27% while wheat production would be reduced to 61% (IUCN, 2002). Under a severe climate change scenario (with 60% moisture stress), yield of *Boro* (dry season paddy) might be reduced by 55~62%. Shortage of water might force farmers to reduce the area for *boro* cultivation.

The coastline of Bangladesh is particularly vulnerable to the sea level rise (SLR) in the Bay of Bengal on account of the low-lying deltaic environment. The tropical cyclones, which strike the coastal areas periodically, create misery and loss of life, property and ecosystems damages.

The total area of the coastal belt is about 39,300 sq km (27 percent of the country's total area), and more than 29 million people (22 percent of the national population) live in this fragile and vulnerable area. Climate change may influence erosion, accretion, floods, water logging, cyclones and tidal surges in the coastal region. On that basis, the people who live in the coastal area and are dependent on its resources for their livelihood already belong to a vulnerable category. The livelihood of the people has been affected through the impacts of the climate changes on agriculture, fishery, livestock, shrimp farming, off farm activities and even the locations of human settlements. These situations have made people devise unique coping strategies for survival. The future of livelihoods and for that matter, the human settlements in this region will depend on viable adaptation measures to meet future extent and consequences of global warming.

Surveys conducted in villages and rural areas in Bangladesh clearly show that people are aware that the climate is indeed changing, but they may not understand the reasons causing the changes (IUCN, 2004). There are also long traditions of coping and adaptation strategies in response to flood and cyclone threats. From a historical perspective, people at the community level, have shown enormous resilience in combating and managing floods and river erosion related disasters. The inherent coping mechanisms within the communities and their traditional knowledge base enable them to organize at the community level and manage disasters. There is a need to revert to community-based mechanisms for coping the vulnerability and then ensure that state agencies are effective in fulfilling a primarily supporting and facilitating role. There are elements of such framework, but they are scattered among different sectoral policies and do not provide a clear and coherent basis upon which effective strategies can be built.

### *1.2 Thematic areas of focus*

Considering these facts, one of the most probable vulnerable coastal regions is Noakhali district and from there Noakhali Sadar Thana has been taken as the project study site. As majority of the population of that area depends on fisheries and agriculture for their livelihood, these two have been chosen over other sector for this detailed sectoral study. Under the project, the study will also focus on the probability of extreme hydrological events to make specific predictions in order to combat with future climatic scenarios. Besides, local farmers and community people have wealth of knowledge on adaptation that can be harnessed and communicated to policy makers to make them aware of developing people-focused policies for adaptation.

### *1.3 Objective*

The principal objective of the current project is to create enabling conditions in Bangladesh for promoting adaptation to climate change and climate variability in national policies and plans and also at the local community level.

Following are the specific objectives of the study:

- To promote **understanding** of the impact of climate change and climate variability on livelihood of coastal community with focus on the central part of the Bangladesh coastline.
- To **raise awareness** through dissemination of information regarding impact and adaptation to climate change and variability among local community in the study areas as well as among key national policy makers
- To prepare a **set of recommendations** to integrate climate change adaptation in various national actions with focus on issues related to coastal zone management.

## 2. Project Site

The project will be implemented in Noakhali coastal district. Detailed studies will be undertaken in one thana<sup>1</sup> of Noakhali district namely, Noakhali Sadar. The project site is shown in figure 1.

The most vulnerable population living below the poverty line inhabit the coastal regions of Bangladesh. Among the entire coastal belt of Bangladesh, Noakhali is the most vulnerable to cyclones and tidal surges. This area is most prone to the adverse effects like saline water intrusion, increased frequency of cyclone and tidal surge etc. resulting from the climate change and variability. The changes in climate will have an impact on the human system in terms of health, food and income etc.

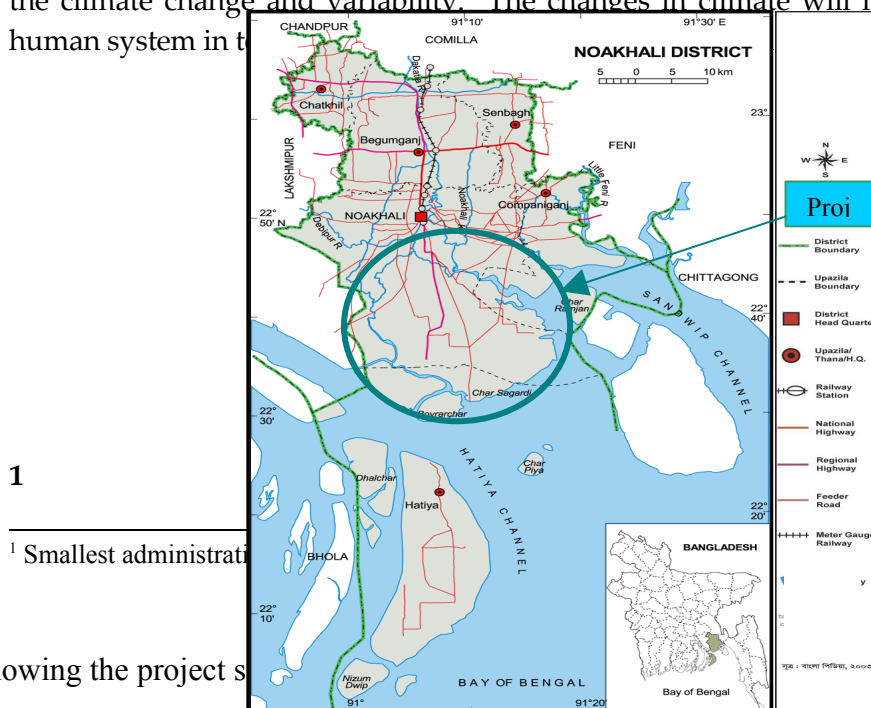


Figure 1. Map showing project area.

## 2 3. Approach and Methodology

The project aims to combine both a participatory approach as well as a rigorous scientific study to achieve the project objectives. Therefore, the information collected will reflect the community's opinions on the current situation and what they require for the future and will be complemented by an in depth analysis, by professionals, on the exact situation of the selected areas and the policies. Sustainable livelihood framework will be used extensively to understand the local vulnerability issues.

### 3.1 Approach

General approach of the project is to in-depth understanding the local issues (that the local people's perspective and understanding of the climate change issues and local institutional capacities to render responses to the people for the perceived change in climatic conditions) and integrating the lessons learned in the policy-decision cycle. To complete this project cycle as depicted in figure 2, interaction of all stakeholders will be ensured by a combination of top-down and bottom-up approaches.

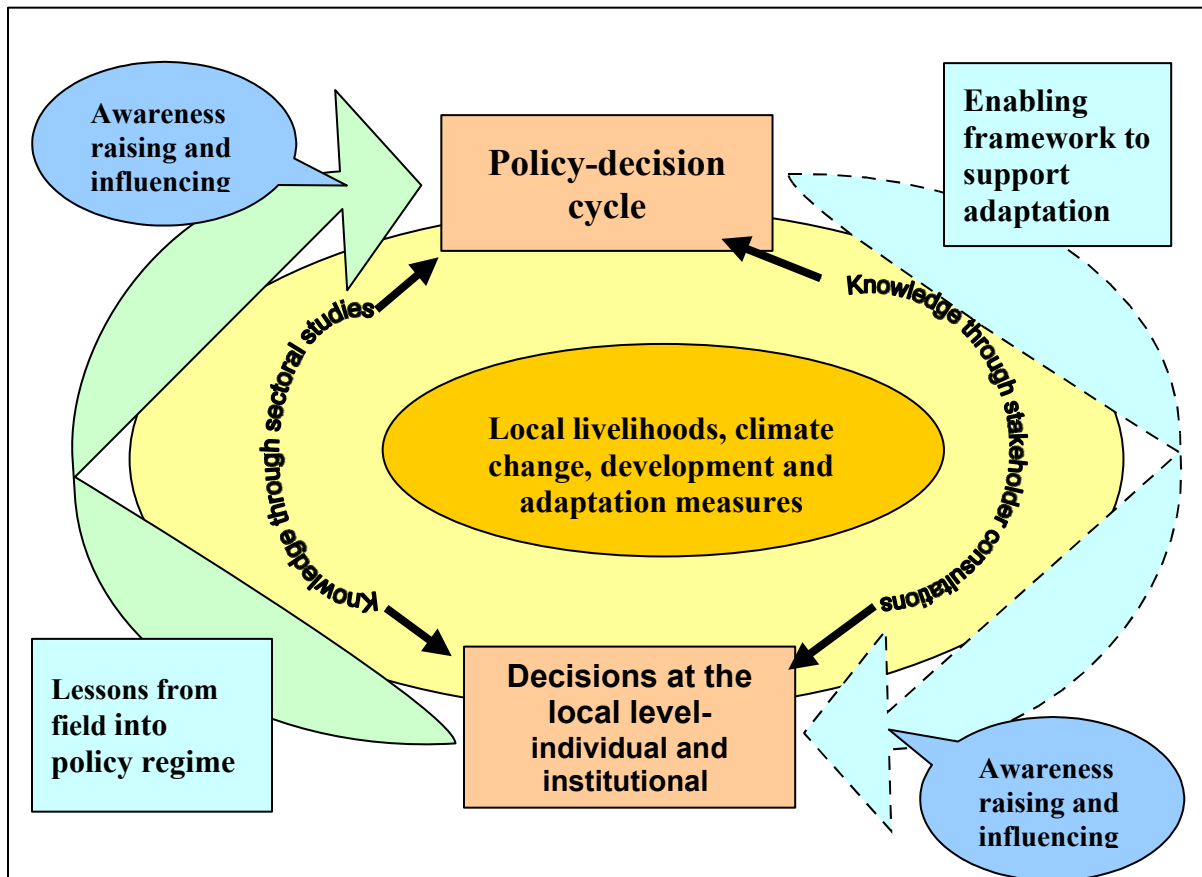


Figure 2. General approach for Bangladesh NCAP study

In order to promote adaptive measures to climate change among the various stakeholders, it is necessary to understand the impact of climate change on the most susceptible population (geographically, economically and socially), to identify the institutional gaps for reducing vulnerabilities (due to climate change impact) and to improve the level of understanding among the decision makers. The stakeholders in this case can be categorized into three levels: the grassroots people, the members of the local institutions and policy makers.

The first work would be documenting information regarding the understanding, adaptive capacity and disaster preparedness of the grassroots community. It is also important to take into account the type of information they require in order to prepare themselves better to combat any disaster. The local institutions also need to be studied to understand their planning, prediction, and disaster preparedness capability etc. Once this information are analyzed, the gaps can be identified and disseminated to the stakeholders at the policy level so that the necessary actions can be taken to meet the demands of the stakeholders.

Most importantly, the activities have been designed in order to explain the three common questions: what are the demands of stakeholders, what is available with them and how their need can be communicated to policy makers to steer necessary action.

### **3.2 Methodology to be used**

Sustainable Livelihood Framework (SLF) as depicted in figure 2 will be used extensively to understand the impact of climate change and climate variability and its corresponding effect on the lives and livelihoods of the people of greater Noakhali district. This region will probably experience the worst-case scenarios from impact of sea level rise, saline intrusion and frequent cyclone greater magnitude and flooding. Fisheries and agriculture are the two major livelihood strategies of the majority of the population in this region. These two sectors, especially agriculture are very much governed by the climatic factors.

The study will involve finding out the different livelihood strategies employed by the local people in the study area, their assets (natural, physical, human, social and financial) and their vulnerability to climate change. The study will take into account the traditional knowledge and coping strategies employed by the local people to combat climate change and variability. If these strategies are found to be useful, they can be

communicated to policy/decision making bodies at the national level with a view to create enabling conditions at the local level by influencing local level institutions in a top-down approach. The information will also be disseminated to the local people in a wider scale.

The methods for communicating local needs or strategies to policy level will be carried out based on the process followed in other projects of IUCNB viz in the project on 'Dialogue of Water and Climate in Bangladesh' implemented in 2002, wherein the representatives of key government institutions (viz. Ministry of Water Resources) were actively involved in its implementation process and subsequently, they were naturally inclined to own the findings of the project /project output; also, the same policy people, while taking any related policy decisions, always voluntarily referred to the erstwhile project outputs, to their convenience. Adoption of such compulsively participatory implementation methods puts IUCNB in a comparatively advantageous position to be also an active partner of the NAPA process.

As an active member of the NAPA Steering Committee, IUCNB assures to disseminate/exchange all relevant information among the NAPA partners and other stakeholders.

When the NAPA document will be finalized in June 2005, they will suggest a series of actions relevant to the coastal zone. These recommended actions will take a year or more to be implemented. Meanwhile, the NCAP findings can complement those proposed actions/activities. It will be ensured that the NCAP experience/ recommendations will be duly considered/ kept in view/ incorporated for replication while NAPA will be implemented in the near future. It may also be worthwhile to mention here that the NAPA covers six thematic areas/sectors. The NAPA document is now being prepared by six sectoral working groups which are being led by WARPO (for water, coastal areas, natural disaster and health), BIDS (for livelihood, gender, local governance and food security), DoE, MoEF (for industry and infrastructures), BARC (for agriculture, fisheries and livestock), IUCNB (for biodiversity, forestry and land use) and BCAS (for institution and policy issues). In addition to IUCNB's above mentioned responsibility, it is also jointly responsible for the thematic area of "institution and policy issues" in partnership with Bangladesh Centre for Advanced Studies (BCAS).

The NCAP Committee will comprise representatives from the different government agencies including key ministries, departments and Bureau of Disaster Management, among others; thus, representation from the policy level will be ensured.

A number of mechanisms have been envisaged to integrate the local findings into the policy level. At the national workshop, representation of key government agencies (especially related to the coastal, marine, agriculture, fisheries and disaster) and dissemination of project findings will be ensured. During the process of implementation of the project, local Members of Parliament will be closely involved, as they happen to have direct links both with the grassroots through the local rural level Union Parishad chairmen and members, especially the women members reaching the womenfolk as well as the national parliament, the highest seat of national policy shaping and enforcement. The unique position of the MPs render them as the strongest effective public policy advocate for their respective constituencies; also, their voices are both heard at the grassroots and the national level ( including the Steering Committee of the relevant subject).

The study will also involve analysis of policy and governance structure at the local and national level and finding recommendations, if any, regarding future governance structure to cope with the change to be induced by climate change and climate variability. SLF is found to be most suitable framework for this proposed study. SLF is an approach that needs to be supported with wide combinations of social and economic tools for situation analyzing. A wide variety of PRA tools will be used in the project, depending on the category and the quality of information to be expected and obtained from the local communities, which will be a little varying during the dissemination of the appropriate messages amongst them. A tentative list of the tools, which are likely to be used, is given below.

- Census (assets, strategy etc.)
- Focus group discussions (FGDs)
- GIS based resource mapping
- Impact diagram
- Mobility maps
- Problem tree
- Process mapping
- Resource mapping
- Seasonal diagramming
- Service or opportunity mapping
- Social mapping
- Trend analysis
- Venn diagram
- Wealth and well being ranking (social, human and etc.)
- Rapid Rural Appraisal (RRA)

The study will require analysis of local institutions in terms of their responsibilities and capacities in rendering services for the local people. It is likely that the adaptation strategy will be linked with the development strategy. Local government institutions are the key players for local development. Again the development plans and decisions are

taken at the national level. So there is a need of vertical integration of local level need to policy-decision cycle at the national level. This study will give special attention to local institutional analysis to develop a SWOT matrix in line with the local stakeholders need for adaptation to climate change.

A network with participation from key stakeholders at the national level will be established. Through this network issues identified at the local level will be communicated to appropriate national bodies to generate a policy-decision cycle. The network will also contribute in generating discussions and raising awareness at the local level.

Besides the study on vulnerability and adaptation options by SLF, more rigorous scientific studies will be undertaken to substantiate the local level findings. One of the focus of the studies will be to analysis and review the impact of climate changes and climate variability on the livelihood of the people, especially the fisher and farmer groups. Another focus would be to assess the risk of extreme climatic condition. A GIS based model will be used in this regard.

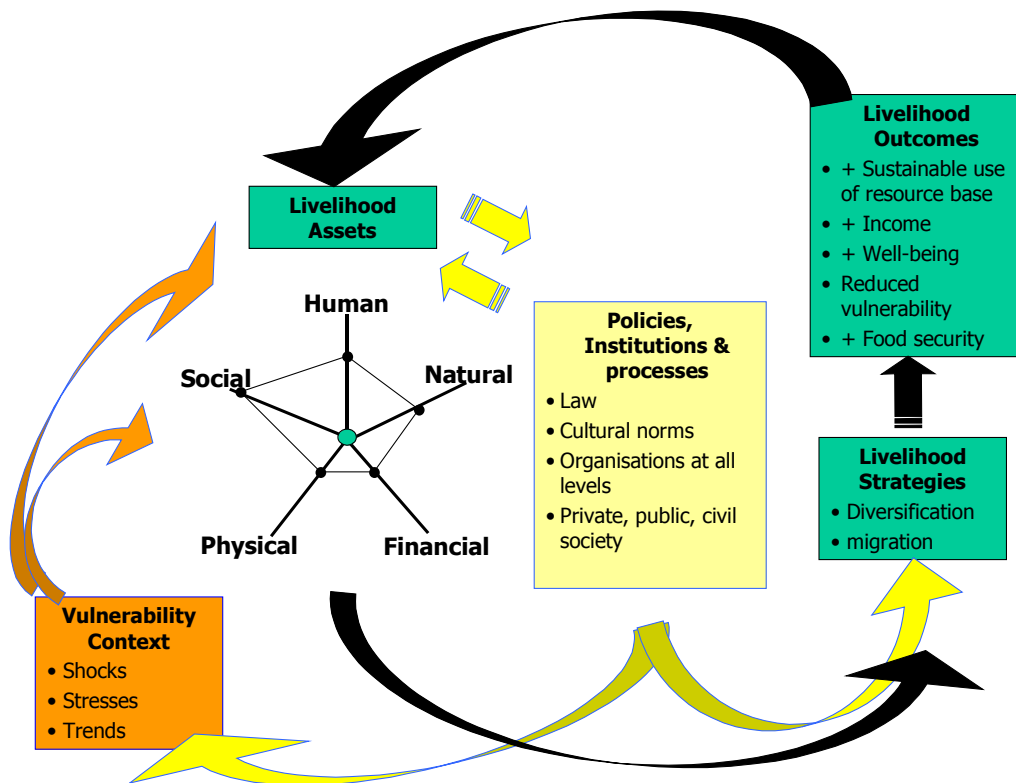


Figure 3. Sustainable livelihood Framework

#### **4. Outputs and Activities**

This section details out the activities to be implemented and rationale for undertaking the activities. Figure 3 depicts the linkages between the project activities and objectives, issues to be covered and key actors identified for successful implementation of the project.

##### **Objective 1: To promote understanding of the impact of climate change and climate variability on livelihood of coastal community with focus on the central part of the Bangladesh coastline.**

Economy, peoples' life and livelihood in Bangladesh are very much dependent on the natural resources base. Climate change and climate variability and associated ecological changes will lead to decline in the availability or quality of natural resources such as water and land on which the livelihoods of many poor people are based. A good understanding of the possible changes that may arise due to climate change and climate variability is necessary to plan in advance for coping with the changing scenarios. Towards developing a holistic understanding of the climate change and development issues, detailed study in the project site will be undertaken. Some of the most important issues related to climate change in the coastal areas are:

- Sea level rise
- Increased frequency of cyclones
- Tidal surge
- Saline intrusion
- Flooding

All these may have a direct effect on aquaculture, fisherman livelihood and crop production etc.

##### **Output 1.1 Local coping and adaptation strategies documented and needs assessed.**

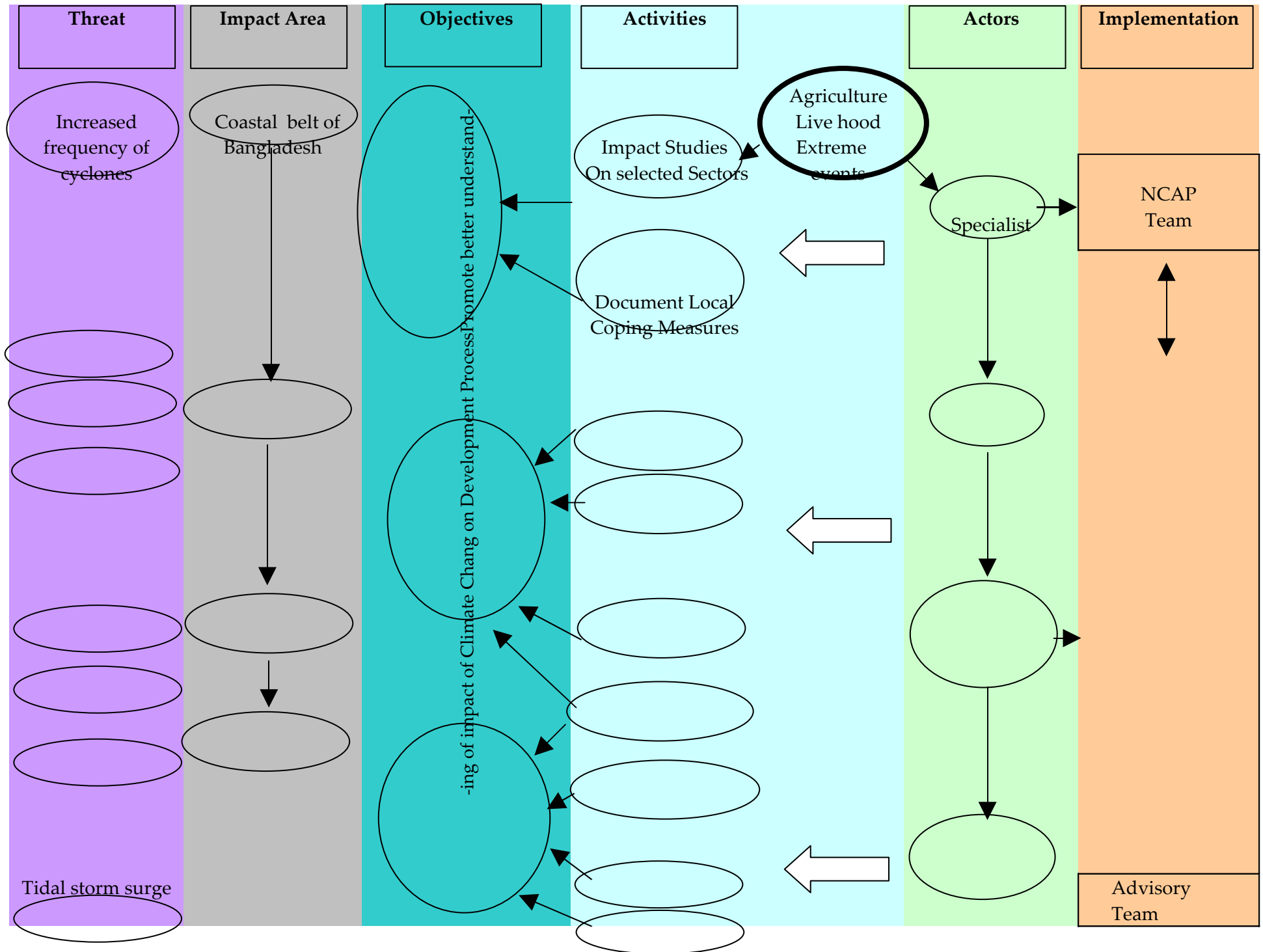
###### ***Activity 1.1 Document local level coping measures***

This activity will track the existing activities and the wealth of knowledge on coping initiatives practiced by the local communities or grass root level stakeholders. Based on participatory approach, this activity will look at options for adaptation available with the farmers, share croppers and fishers and what kind of support or facilitation would be needed for implementation of those adaptation options. Such knowledge will help in formulating recommendations suitable for implementation at the local level. Three detailed local level consultations will be carried out with relevant professional groups.

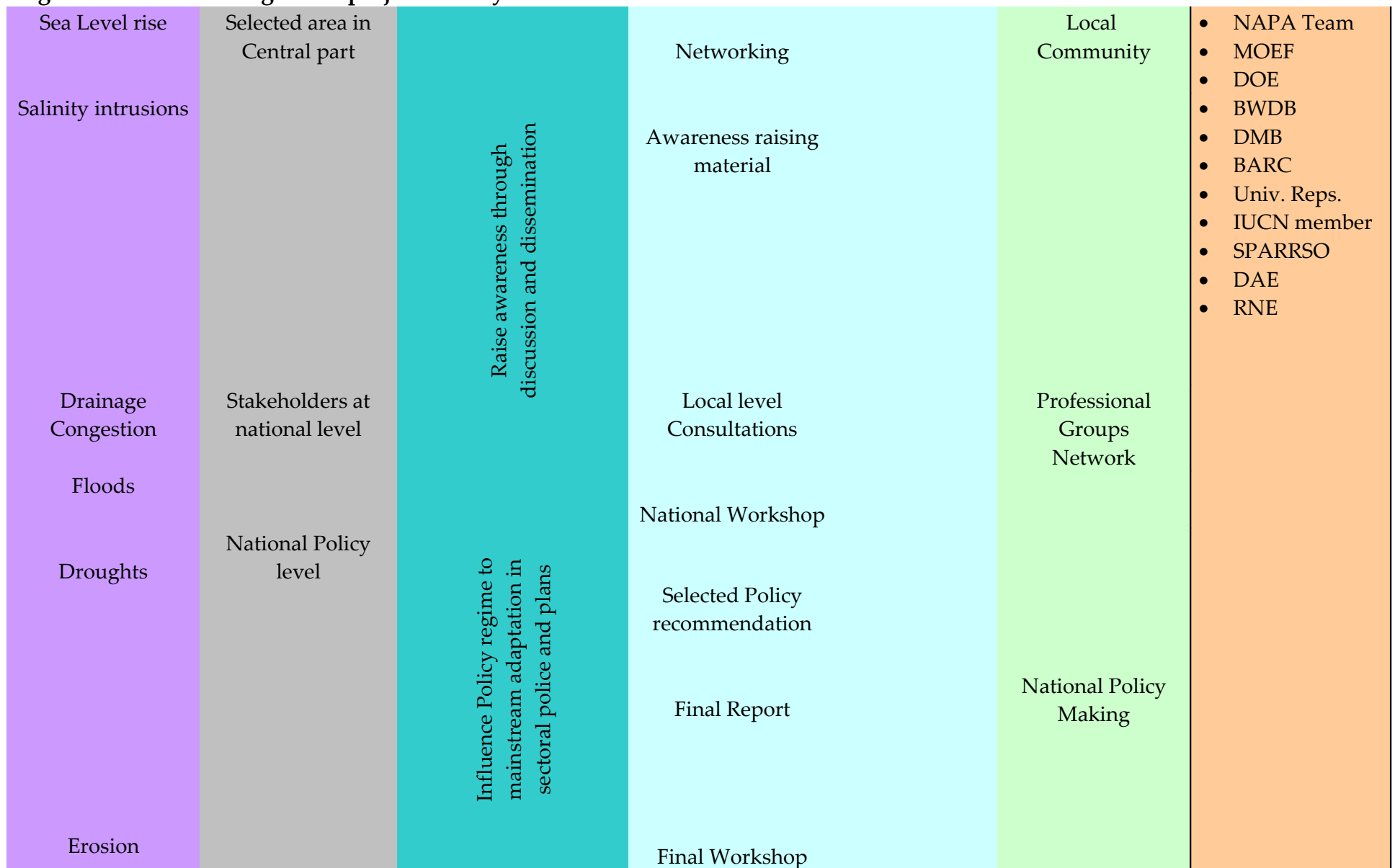
*Activity 1.2 Analyze local institution's capacity*

The local institutions of the government as well as non-government organizations are responsible for implementing development initiatives and facilitating support towards

Figure 4. Schematic diagram of project activity flow.



**Figure 4. Schematic diagram of project activity flow.**



grass root people. These institutions need to be geared up so that they can facilitate support towards coping and adaptation measures of the grassroots stakeholders in the context of changed climate scenario. The activity 1.1 will identify a number of adaptation measures (non structural) of the grassroots level stakeholders. In this connection the capacity of the local institutions need to be reviewed to identify weather or not they are in a position to intervene accordingly. This activity will be carried out through consultation with the representatives from local institutions. The needs or demands of capacity enhancement of local institutions may lead to issue identification and recommendation for policy setting.

In the local level / grassroots level the major key players at the union and thana level in decision-making and implementation of all development activities. Stakeholders will be Union Parishad, CBOs, different relevant departments of government (for e.g. agriculture, fisheries extensions and disaster management), local elites, local schoolteachers and religious leaders. Union Parishad is the elected local government authority. Therefore, Union Parishad would be the vital stakeholder in awareness raising regarding climate change and undertaking any adaptation measures at the local level. They also send feedbacks to higher administrative units at the regional and national level on development needs and planning at the local level.

Under the social settings in Bangladesh, local decision-making is always influenced by the local elites. The local elite, will, therefore be involved in the project as a part of analyzing the institutional capacity. The term 'local elite' means the opinion leaders, that is, the counted few people in the locality who influence, shape and change, when necessary the opinions of the people. The following broad categories of such members of the local level rural elite may be delineated:

- People who are highly respected in the locality having considerable influence over the community people viz. *Imam* (who leads prayers at the mosque), principals/headmasters of the primary and high schools, colleges and *madrasahs* (religion schools), retired government officials etc.
- Local government officials, that is, elected representatives of the local government bodies viz. the current and former chairmen, members and also female members of the Union Parishad, groups viz. local professional leaders of the landless, farmers, fishers etc.
- Representatives of the NGOs and CBOs, that is, the local officials of national and other NGOs.

From previous experience it is found that schoolteachers and religious leaders are effective in communicating and disseminating information among the target groups. Their strengths will therefore be judiciously used in the project.

These two exercise or activities will enable V & A assessments to facilitate insight among decision makers in current state of knowledge on the relationship between climate change impact and the country's development plan.

**Output 1.2. State of knowledge on climate change and climate variability and its linkages with livelihoods in coastal areas enhanced.**

*Activity 1.3 Commission impact studies on selected sectors/themes*

This project is focusing on how people's livelihood, especially the most vulnerable groups will be effected in the changed climatic scenario and what adaptation measures will be useful in the changed context. Majority of the population of the district depend on two sectors, these are agriculture and fisheries. The links between climate change and livelihood of the people are also only partially understood. The study will focus on further in-depth analysis and review the impact of climate changes and climate variability on the livelihood of the people of the coastal zone of greater Noakhali district. This information will generate in-depth knowledge on impact of climate change on overall food security and related poverty and livelihood activities. A GIS based probable hydrological events will be sketched out to get the future scenario, which would contribute in planning for adaptation. The study will be on the following sectors

- Impact of climate change on Agriculture
- Impact on fisheries
- Risk assessment and evaluation of probability of extreme hydrological events and recommendation on subsequent disaster management

**Objective 2: To raise awareness through dissemination of information regarding impact and adaptation to climate change and variability among community within study areas as well as key national policy makers**

The adverse effects of climate change will disproportionately affect poorer countries. This is also true at a human level as the most vulnerable people are the rural poor living mostly in the coastal zones, whose dependence on natural resources and low levels of resilience to any form of vulnerability exposes them to potentially devastating impacts from even minor changes in environmental conditions. The successful implementation of adaptation measures will depend upon human and resource capability of Bangladesh, social acceptability, and integration with other programs and projects. Awareness raising will serve for ensuring active participation of all relevant stakeholders in order to build consensus on best adaptation strategies and to set an environment for implementation of required changes in order to adapt.

**Output 2.1. Climate Change information flow and exchange of views amongst different level stakeholders established and enhanced.**

*Activity 2.1. Establishment of Climate Change Adaptation Network*

This activity aims to generate discussion among Government officials, grassroots people, NGO community and academics at all levels (thematic/sectoral/professional group). Findings from grassroots level consultations will also be shared at this platform. This activity will influence the policies and sectoral plans by sensitizing the policy maker to address the challenges of climate variability and climate change.

Active participation of all stakeholders will be ensured and their feedback will be obtained in order to raise the awareness on climate change and adaptation issue.

IUCN Bangladesh office will coordinate and act as the secretariat of the network. Quarterly meetings will be organized during the project duration.

*Activity 2.2. Develop and disseminate communication material for raising awareness*

Simplified communication materials (booklet, brochure, video and poster) will be developed and widely disseminated to raise awareness on the issues related to the impacts of climate change and climate variability. A communication expert will furnish effective communication strategies and materials to reach out to the two target populace. The target audience for the communication material will be the policy makers, local government intuitions and grassroots people. The design of materials will be different for the groups; materials for the policy makers will be created to influence their decisions whereas materials for the grassroots people will focus on the awareness raising tactics. The matter or topic for communication material will be identified based on the activity 1.1 and 1.2 the communication materials will also be used as visual aid in activity 2.3 during the local level consultations

*Activity 2.3. Raise awareness regarding the impact and adaptation to climate change and variability through consultation at the local level.*

A series of three local level consultations will be organized at the chosen project site. Noakhali Sadar thana of Noakhali district. Interactive consultation sessions with stakeholders at the local level will raise their awareness on the climate change issues and build consensus on adaptation measures. The consultation sessions will also provide information on views on local people on climate change and climate variability and adaptation measures.

**Objective 3: To prepare a set of recommendations to integrate climate change adaptation in various national actions with focus on issues related to coastal zone management.**

It is very essential to identify the absence of “climate change consideration” of the policy regime and advocate for revising the relevant policies accordingly in order to facilitate decision on adaptation measures. A policy has been formulated on the Integrated Coastal Zone Management (ICZM). It is likely that the ICZM policy will be the guiding principle for any development in the coastal regions. The ICZM policy also put emphasis on reducing vulnerability from natural disaster without mentioning climate change issues. This study will generate knowledge base (specifically through activity 1.1, 1.2 and 1.3) that will be useful to bring synergies between local need and policy decisions. Towards that, other relevant sectoral policies like agriculture policy, fisheries policy and water policy need to be reviewed to prepare the recommendation to bring actions for adaptation at the field level.

**Output 3.1. ICZM policy reviewed with a view to recommending options for adaptation to climate change and climate variability**

***Activity 3.1 Analyze ICZM policy and identify recommendation options for adaptation to climate change and climate variability***

Selected sectoral policies. i.e., agriculture, fisheries, disaster management (standing order) will be analyzed to measure how conducive they are to climate change and climate variability issues. Based on the finding of activity 1.1, 1.2 and 1.3 and partially activity 2.3, recommendation will be made to influence policy-decision cycle for putting adaptation at the development agenda.

***Activity 3.2. Synthesize all information and drafting of final report***

Based on the findings of the sectoral studies, consultations and policy analysis, a final report will be developed with respect to specific recommendation for integrating adaptation options.

The draft report (recommendations) will be reviewed and finalized at the final national level workshop.

***Activity 3.3. Organize a final workshop at the national level***

After completion of the major activities of the project, a final national level workshop will be organized to review the findings of the studies, consultations and identify priorities and building up consensus for mainstreaming climate change adaptations into country's development agenda and define key steps needed for its implementation. This workshop will be based around the draft final report to be developed under this project.

### 5. Detailed Work plan

	Q1 Dec'04 Feb'05	Q2 Mar' 05 May'05	Q3 Jun'05 Aug'05	Q4 Sep'05 Nov'05	Q5 Dec'05 Feb'06	Q6 Mar'06 May'06	Q1 Jun'06 Aug'06	Q2 Sep'06 Nov'06	Q3 Dec'06 Feb'07	Q4 Mar'07 May'07	Q5 Jun'07 Aug'07	Q6 Sep'07 Nov'07
<b>Project initiation and team mobilization</b>												
Contract signed	■											
Selection of IUCN Team	■											
Participation in Lieden Workshop	■											
Selection of Study Area	■											
Finalization of Thematic areas	■											
Setting up of a National Advisory Team (NCAP committee)												
Detailed report on work plan		■										
Submission of workplan	■ ●	■										
<b>Project Activities</b>												
<b>Activity 1.1 Document local level coping measures</b>												
Develop detailed ToR for the studies			■									
Assign consultants for the studies			■									
Finalize tools for participatory assessment			■									
Team orientation on the methodology to be used			■									
Testing tools and methods for assessment			■									
Develop criteria			■									

	Q1 Dec'04	Q2 Mar' 05	Q3 Jun'05	Q4 Sep'05	Q5 Dec'05	Q6 Mar'06	Q1 Jun'06	Q2 Sep'06	Q3 Dec'06	Q4 Mar'07	Q5 Jun'07	Q6 Sep'07
Activities	Feb'05	May'05	Aug'05	Nov'05	Feb'06	May'06	Aug'06	Nov'06	Feb'07	May'07	Aug'07	Nov'07
for selecting stakeholders												
Identify key stakeholders			-									
Stakeholder consultations				————								
Synthesis data from stakeholder consultation					————							
Identify effective coping measures			————									
Recommendation on best practice												
<b>Activity 1. 2 Local institution's capacity analyzed</b>				————	●							
Develop detailed ToR for the studies												
Assign consultants for the studies												
List initial set of indicators/issues for institutional analysis												
Local consultations							————					
Develop SWOT for local institution for adaptation												
Final report							————	●				
<b>Activity 1.3. Commission impact studies on selected sectors/themes</b>												
<b>Sectoral study on agriculture and fisheries</b>												
Develop detailed ToR for the					————							

	Q1 Dec'04 Feb'05	Q2 Mar' 05 May'05	Q3 Jun'05 Aug'05	Q4 Sep'05 Nov'05	Q5 Dec'05 Feb'06	Q6 Mar'06 May'06	Q1 Jun'06 Aug'06	Q2 Sep'06 Nov'06	Q3 Dec'06 Feb'07	Q4 Mar'07 May'07	Q5 Jun'07 Aug'07	Q6 Sep'07 Nov'07
studies												
Assign consultants for the studies				—								
Fine tune the methodologies to be used				—●								
Team orientation on the methodology to be used					—							
Collection of secondary information and analysis				—	—							
Prepare an initial set of indicators for benchmarking and monitoring					—●							
Undertaking field studies and primary data collection						—						
Overall livelihood vulnerability assessment							—					
Review local institutions							—					
Synthesize data and report possible adaptation measures					—	—●						
<i>Sectoral study on risk assessment</i>												
Develop detailed ToR for the studies		—										
Assign consultants for the studies		—										
Fine tune the		—●										

	Q1 Dec'04 Feb'05	Q2 Mar' 05 May'05	Q3 Jun'05 Aug'05	Q4 Sep'05 Nov'05	Q5 Dec'05 Feb'06	Q6 Mar'06 May'06	Q1 Jun'06 Aug'06	Q2 Sep'06 Nov'06	Q3 Dec'06 Feb'07	Q4 Mar'07 May'07	Q5 Jun'07 Aug'07	Q6 Sep'07 Nov'07
methodologies to be used												
Team orientation on the methodology to be used												
Collection of secondary information and analysis												
Local consultation on climatic events												
Plot the data on GIS model												
Develop a predictive model/future scenario												
Review local institutions capacity in risk minimization												
Final report												
<i>Activity 2.1. Establishment of Climate Change Adaptation Network</i>												
Initiate the network												
Organize network meeting for average raising at national level												
<i>Activity 2.2. Develop and disseminate communication</i>												

	Q1 Dec'04 Feb'05	Q2 Mar' 05 May'05	Q3 Jun'05 Aug'05	Q4 Sep'05 Nov'05	Q5 Dec'05 Feb'06	Q6 Mar'06 May'06	Q1 Jun'06 Aug'06	Q2 Sep'06 Nov'06	Q3 Dec'06 Feb'07	Q4 Mar'07 May'07	Q5 Jun'07 Aug'07	Q6 Sep'07 Nov'07
<i>material for raising awareness</i>												
Identify issues from activity 1.1, 1.2 and 1.3							-					
Develop communication materials							-					
Finalize and disseminate communication material								■	■	■	■	■
<i>Activity 2.3. Raise awareness regarding the impact and adaptation to climate change and variability through consultation at the local level.</i>												
Pre project Local consultation with key stakeholders												
Local consultation with key stakeholders (2 <sup>nd</sup> Phase)		■ ■ ■ ■ ■										
<i>Activity 3.1 Analyze ICZM policy and identify options recommend for adaptation to climate change and climate variability</i>								▶	▶	▶		
<i>Activity 3.2. Synthesize all information and drafting of final</i>							—●					

- —●

	Q1 Dec'04	Q2 Mar' 05	Q3 Jun'05	Q4 Sep'05	Q5 Dec'05	Q6 Mar'06	Q1 Jun'06	Q2 Sep'06	Q3 Dec'06	Q4 Mar'07	Q5 Jun'07	Q6 Sep'07
<b>Activities</b>	Feb'05	May'05	Aug'05	Nov'05	Feb'06	May'06	Aug'06	Nov'06	Feb'07	May'07	Aug'07	Nov'07
<i>report</i>												
<i>Activity 3.3. Organize a final workshop at the national level</i>												
<i>NCAP/Steering committee meeting</i>												

## 6. Report Schedule

Reports	Submission date
Detailed Workplan	February 28, 2005
First Progress report	May 30, 2005
Final Report on Risk assessment	August 30, 2005
GIS map and report	August 30, 2005
Second Progress Report	November 30, 2005
Document local level coping measures: Recommendation on best practice	December 10, 2005
Local Institution capacity analyzed	May 15, 2006
Third Progress Report	May 30, 2006
Synthesis data and report possible adaptation measures (Agriculture and fisheries)	June 30, 2005
Communication materials	June 30, 2006
Review of ICZM policy and recommend options	August 30, 2006
Fourth Progress Report	November 30, 2006
Feedback from local consultation	January 30, 2007
Fifth progress report	May 30, 2007
Draft final Report	August 30, 2007
Final Progress Report	November 30, 2007

## 7. Project Implementation

### *7.1 Project Staff*

At the project scale, IUCN will ensure the coordination and effective implementation of all project activities. Dr. Ainun Nishat, Country Representative, IUCN Bangladesh will act as the Project Coordinator to ensure effective interaction. For the overall management of the project, IUCN Bangladesh will appoint a full time Project Manager who will work under the supervision of the Project Coordinator. Project Manager will be responsible for ensuring timely delivery and quality of various envisaged project outputs while maintaining necessary liaison with all relevant stakeholders throughout the project duration. The NCAP implementation team would be as:

- Project Coordinator (staff time contribution from IUCNB)
- Project Manager
- Programme officer
- Assistant Programme Officer (2)
- Sectoral Experts (consultant) will work on sectors, i.e., Agriculture, Fisheries, Extreme Hydrological events and Institution and Policy analysis.

### *7.2 NCAP Committee*

The national NCAP Committee will provide overall guidance to the project and review the different outcomes of the process. This process will ensure that relevant government agencies are fully aware of activities and outcomes of the project. The members of the NCAP Committee will be drawn from:

- Ministry of Environment and Forests(MoEF)
- Ministry of Water Resources (MoWR)
- Ministry of Disaster Management and Relief (MoDMR)

- Ministry of Agriculture (MoA)
- Bangladesh Agriculture Research Council (BARC)
- Ministry of Fisheries and Livestock (MoFL)
- Ministry of Local Government and Rural Development (MoLGRD)
- Bangladesh Water Development Board (BWDB)
- Water Resource Planning Organization (WARPO)
- Department of Environment (DoE)
- Bureau of Disaster Management (DMB)
- Department of Agriculture Extension (DAE)
- Bangladesh Institute of Development Studies (BIDS)
- Representative from The Royal Netherlands Embassy, Bangladesh (Observer)

While developing the above list, all members of the Bangladesh NAPA Committee have been duly included.

### *7.3 Responsibility of Project Staff*

#### **Implementation team**

- Overall project coordination
- Mobilization
- Preparation of detailed work plan
- Develop ToR for consultants
- Documentation of local level coping strategies
- Organize workshops (local, thematic, sectoral and national)
- Analyse sectoral policies
- Synthesis all information

- Prepare final report
- Carry out field activities
- Carry out local level consultation
- Assist consultants in field study

### **Consultant team**

- Carry out impact studies on agriculture and fisheries with reference to gender and livelihood as cross cutting issues.
- GIS Based Risk assessment and evaluation of probability of extreme hydrological events.
- Analysis of Institution and Policy.

## 8. Log frame

<b>Narrative summary</b>	<b>Indicators</b>	<b>Means of verification</b>	<b>Assumption</b>
<p><b>Goal</b></p> <p>To minimize the risk related to climate change and climate variability in coastal area of Bangladesh</p>	<p>The Government and people of Bangladesh are better knowledge on and means for adaptation to reduce the vulnerability associated with climate change and climate variability</p>	<p>Output incorporated in the 2<sup>nd</sup> National Communication to UNFCCC Secretariat</p>	<p>Impact of climate change and climate variability is not severe and abrupt</p>
<p><b>Purpose</b></p> <p>To create enabling conditions in Bangladesh for promoting adaptation to climate change and climate variability in national policies and plans specific to coastal areas and also at the local community level of coastal areas</p>	<p>Policy makers and selected communities are aware about the consequences of climate change and climate variability and recommendations are made to incorporate adaptation to climate change in sectoral policies</p>	<p>Programme/plan/projects proposed/undertaken by different Sectoral ministries on adaptation issues</p>	<p>Key policy makers remain supportive to give special consideration to climate change issues</p>
<p><b>Output</b></p> <p>1.1. Local coping and adaptation strategies documented and needs assessed</p>	<p>Detailed study undertaken with the grass root stakeholders of the project site in Noakhali district and one report published</p>	<p>Published report on local coping and adaptation strategy</p>	<p>Local people share their knowledge with project personnel</p>
<p>1.2 Analyze local institution's</p>	<p>In depth consultations with local</p>	<p>Published report on institutional</p>	<p>Local conditions are</p>

<b>Narrative summary</b>	<b>Indicators</b>	<b>Means of verification</b>	<b>Assumption</b>
capacity	institutions of the project sites and one report prepared	capacity	supportive for undertaking thorough study
1.3 State of knowledge on climate change and its linkages with livelihoods in study area enhanced.	3 detailed sectoral study reports published	Sectoral study reports	Local people share their knowledge with project personnel
2.1. Climate change information flow and exchange of views amongst different level stakeholders of the country established and enhanced.	1 network on climate change and adaptation established	Network meetings Media watch	Key policy makers take note of the study output and remain supportive to the climate change issues
3.1 ICZM policy reviewed with a view to recommend options for adaptation to climate change and variability	A set of recommendation developed	Project report	N/A
<b>Activities</b>			
1.1 Document local level coping measures	1 report published on local coping measures	Study report Final report	Stakeholders are willing to share knowledge
1.2 Analyze local level institutions capacity	1 report published on local institutional capacity	Study report Final report	Local conditions remains favorable for a detailed study
1.3 Commission impact study	3 sectoral study commissioned	Sectoral study reports	Local conditions

<b>Narrative summary</b>	<b>Indicators</b>	<b>Means of verification</b>	<b>Assumption</b>
on selected sector			remains favorable for a detailed study
2.1 Establishment of climate change adaptation network.	9 quarterly meetings will be organized during project duration	Network meeting minutes	All relevant stakeholder are willing and able to participate
2.2. Develop and disseminate communication material for raising awareness	1000 copies of communication material produced	Physical observation	Deadlines are met in developing and disseminating communication materials
2.3 Raise awareness through dissemination of information regarding the impact and adaptation to climate change and variability.	3 local level consultations organized	Workshop report Participant attendance	Communication material reach and positively influence intended stakeholders
3.1. Analyse ICZM with a view to integrating the options for adaptation to climate change and climate variability	One report on sectoral policy analysis produced	Study report	Sectoral policies are available
3.2. Synthesize all information and develop final report	Final report produced in the middle of last quarter of the project period	Draft final report	All other study reports are timely produced and available
3.3. Organize a final workshop at the national	1 national workshop organized	Participant attendance	Local condition remain favorable for

<b>Narrative summary</b>	<b><i>Indicators</i></b>	<b>Means of verification</b>	<b>Assumption</b>
level			holding a national level workshop

