

Government of the People's Republic of Bangladesh  
The Ministry of Environment and Forests  
Technology Need Assessment Project  
Supported by GEF/UNEP

## **TERMS OF REFERENCE**

### **1. Background Information**

Following Decision 2/ COP4, GEF provided funding to 92 countries between 2000 and 2004 for Technology Needs Assessments (TNAs) through its enabling activities phase II. But Bangladesh was not among the 92 countries for the TNA in this first TNA exercise conducted by UNDP and also UNEP. UNDP produced a TNA handbook in 2004. COP 13 in Bali asked the Expert Group on Technology Transfer (EGTT), UNDP, and UNEP to update the handbook. GEF then proposed the Poznan Strategic Program on Technology Transfer, which was endorsed by COP 14. The strategic program contains three funding windows; (i) technology needs assessments (TNAs); (ii) piloting priority technology projects; and (iii) dissemination of successfully demonstrated technologies. The GEF programme has an overall funding of US\$50 million.

The current Global TNA project being executed by UNEP is designed to support 35 to 45 countries to assist in their Technology Needs Assessments within the framework of the UNFCCC. The assessments will involve amongst others in-depth analysis, characterisation and prioritization of technologies, and analysis of potential barriers hindering the development and transfer of prioritized technologies as well as issues related to potential economic opportunities at the national level. National Technology Action Plan (TAP) in consultation with all relevant stakeholders will be prepared consistent with mainly the domestic and also the global objectives. The TAP will outline essential elements of an enabling framework for technology development and transfer including removal of barriers external to the country and beyond the capacity of Bangladesh. Targeted training and supporting materials related to methodology for prioritization of technologies, economic assessment, access and links to data on technologies will be developed and tested and made available to all participant countries by URC. Experiences gained during the project implementation will be shared amongst participating countries that will be facilitated by URC. The project will also help fine tune methodologies and contribute to the revision of the new TNA Handbook.

## **2. Project Focus or Context**

The MOEF shall complete the tasks related to TNA in Bangladesh as a part of the overall UNEP-GEF project on TNA with financial support to be provided by UNEP through URC. The MoU covers various tasks to be performed in conducting the TNA for Bangladesh, including preparation of a TAP. The tasks to be carried out by the MOEF are as described in **Enclosure 1 – Statement of Work**.

## **3. Objectives of the Project**

The purpose of the TNA project is to identify and analyze priority technology needs, which can form the basis for a portfolio of environmentally sound technology (EST) projects and programmes to facilitate the development, transfer of, and access to, the ESTs and know-how in the implementation of Article 4.5 of the UNFCCC Convention. The TNA should present an opportunity to identify the needs for new equipment, techniques, practical knowledge and skills, which are necessary to mitigate GHG emissions and/or reduce the vulnerability of sectors and livelihoods to the adverse impacts of climate change. The objectives can be defined as;

- To identify and prioritize technologies that can contribute to mitigation and adaptation goals of the participant countries, while meeting their national sustainable development goals and priorities.
- To identify barriers hindering the development, acquisition, deployment, and diffusion of prioritized technologies.
- To develop a Technology Action Plan (TAP) specifying activities and enabling frameworks to overcome the barriers and facilitate the development, transfer, adoption, and diffusion of selected technologies.

## **4. Project Institutional Framework**

### **Project Advisory Committee**

The institutional arrangements for conducting the TNA are an important element of the TNA process. The TNA process would be led by a Project Advisory Committee of experts from concerned ministries, the civil society and the private sector. The Project Advisory Committee will be established by the Ministry of Environment and Forest (MOEF)

### **Project Management**

The MOEF in consultation with UNEP/URC will appoint an institution/organisation or a consortium of organisations that will include a Team Leader whose tasks will be to act as a focal point for the effort and management of the TNA process in close consultation with the Government focal point of the project. The Team Leader will provide vision and leadership for the overall effort, facilitating communication with the National TNA Team members, and managing outreach to stakeholders, formation of networks, information acquisition, and coordination and communication of all work products. The work of the Team Leader would be critical for the success of the TNA and for achieving the objectives of the project. The Team Leader must have facilitation skills, project management capacity and scientific or engineering background, as these will likely to be advantageous in terms of familiarity with technology specifications and performance characteristics.

### **National TNA team**

The Team Leader will lead a small National TNA Team within the institute/organisation or a consortium established for the project implementation. The team should include members familiar with national development objectives and sector policies, overall insights in climate change science, and potential climate change impacts for the country, and adaptation needs. It is important for the National TNA Team to have a multi-sector and multi-disciplinary scope, with representatives from communities outside the areas of development policy making and climate change, as well as from the private sector.

The TNA team is to undertake all activities to realise the project objectives that will include collection, analyses, and synthesis of all available data and information in support of the TNA exercise. The team will also provide support as needed for project execution through a project office, by organising workshops and focus group organization, and discussion moderation. Specifically, the tasks of TNA team would include;

- Identifying national development priorities on the basis of various documents such as existing national development policy documents, National Communications, energy plans, etc. This also includes identification and categorization of the country's sectors, and identification of potential technologies for mitigation and adaptation with involvement of the stakeholders.
- Leading the process of analyzing with the stakeholder groups how the prioritized technologies can be implemented in the country and how the implementation circumstances could be improved by addressing the barriers and developing an enabling framework.
- Preparing the Technology Action Plan that is a roadmap of policies that will be required for removing barriers and creating the enabling environment, and preparing the mid-term (TNA and TAP) reports and final report.

The TNA team composition will be flexible to accommodate additional experts, whenever needed. TNA handbook (UNDP, 2009) and Good practice for technology needs assessments (UNFCCC workshop report, 2007) will be referred for further details.

The institutional mechanism proposed for this project is indicated in Figure 1.

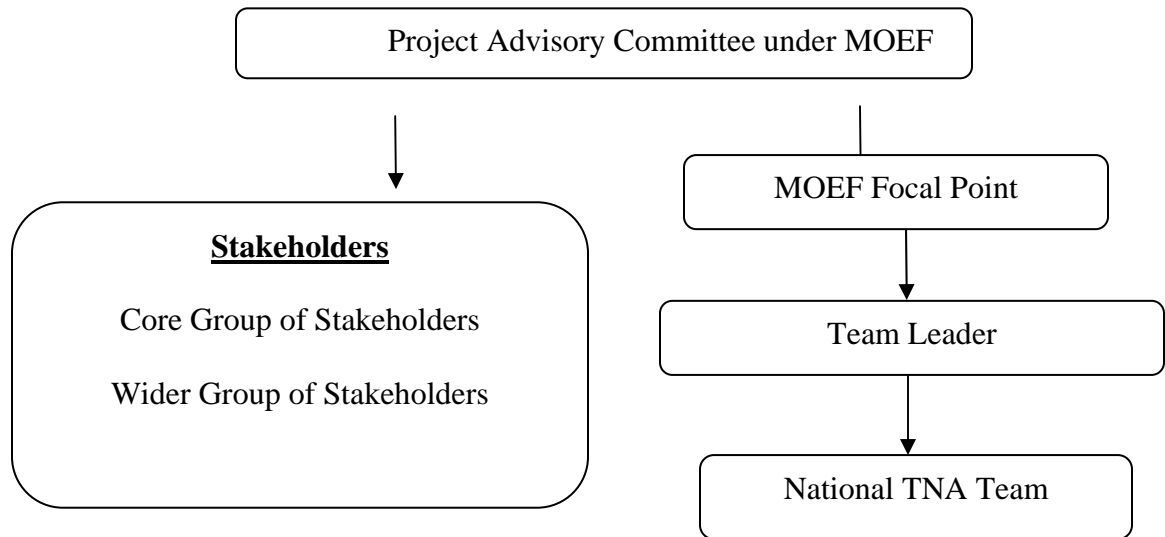


Figure 1: Institutional Mechanism for project implementation

## 5. Description of requirement and standard clauses

### *PART I – Description of Requirement*

- a. Statement of Work - The successful consultant will be required to perform the Work in accordance with the Statement of Work attached hereto as Enclosure - 1
- b. The bidder for this contract, should submit a tender (original plus three copies by registered mail of private courier service posted not later than 10 September 2010 at the following address:

The Secretary  
Ministry of Environment and Forests  
Government of Bangladesh  
Building No. 6, Bangladesh Secretariat  
Shegunbagicha, Dhaka

- c. In the case of delivery by person, the bid document must be received by 4 p.m. 15 September, in which case a receipt must be obtained as a proof of

delivery. The Government office hours are from 9 a.m. to 4 p.m. Sunday to Thursday excepting holidays as declared by the Government.

- d. The tender must be submitted in sealed envelop clearly indicating the name of the project, the project reference number, and the name of the bidder's institution.
- e. Tenders must be signed by the tenderer of his/her duly authorized representative.
- f. Submission of tender implies acceptance of all the terms and conditions set out in this invitation to tender, in the terms of reference, and in the draft contract.
- g. The period of contract shall be from the date of Contract Award for one year which would be October 2010 – September 2011.
- h. At the request of the tenderer, the Ministry of Environment and Forest may provide additional information that may be required to clarify the contents in the TOR and the nature of the contract in the delivery of services.
- i. This invitation to tender is in no way binding to the Government. The Government's contractual obligation commences only upon signing of the contract with the successful bidder.
- j. When the decision regarding the acceptance/rejection is finalized, the bidders will be informed as appropriate.

## PART II - Standard instructions, clauses, general terms and conditions

The following are the general terms, conditions and clauses by title, number and date, incorporated forming part of the bid solicitation that may constitute the contract, or expressly set out express terms and conditions in this request for proposal.

### **Statement of Work**

*Assessment of the Technology needs assessment in Bangladesh*

### **Key Activities**

In order to achieve the objectives set out above, the consultants will undertake the following tasks:

- **Appoint a TNA Team Leader and establish the TNA Team**
- **Organise stakeholders (core group and the wider group)** - They could include government departments (e.g. power supply) and vulnerable sectors (e.g., agriculture), private and public sector industries, associations, electric utilities and

regulators, technology users and/or suppliers within private sector, finance, households, small business, farmers (who are end users for selected technologies / options), relevant institutions (universities, consultants, etc.) and others (international organizations, donors). This network is intended to carry forward the implementation plan after completion of the project.

- **Define the goals and objectives of the process the roles and engagement of stakeholders in the project in collaboration with the stakeholders**
- **Establish baseline situation for the current technology development and transfer** - This process should include current practices for development and transfer of technology with characterisation of the technologies, R&D practices, adaptation of technologies, investment and technology policies, and the investment guidelines to assess as to what extent these are conducive to technology development and transfer.
- **Develop a detailed work plan for TNA and Technology Action Plan.** This may require, as a preparatory activity, review of the TNA and other related work already done in the country- GHG Inventory, mitigation assessment, vulnerability assessment, Climate Change Strategy and Action Plan, Napes, other national plans, national communications, and strategies etc.
- **Develop guidelines for the reports and related project activities** drawing on the TNA handbook and other relevant technical guidance materials, assisted as needed by advice from URC and other appropriate sources such as on the structure and contents of the TNA and TAP reports and data collection and referencing.
- **Identify institutions for data and expert support**
- **Hold a national Inception Workshop and finalize the work-plan based on stakeholders feedback**
- **Participate in the regional Capacity Building and Experience Sharing Workshops.** The participants to these workshops will also be responsible for providing training to other concerned members, working on these items in the country.
- **Prioritize Sectors and Technologies for Mitigation and Adaptation which should be followed by the systematic removal of barriers to the accelerated transfer of environmentally sustainable technologies**
- **Prepare the prioritized technologies report (TNA report)** - It should contain a list of the prioritized technologies, both for mitigation and

adaptation with complete project background and methodology, and structured in the format agreed for the project with URC.

- **Carry out economic assessment- analyze barriers and develop an enabling framework for deployment and diffusion of prioritized technologies**
- **Prepare a Technology Action Plan (TAP) for deployment and diffusion of identified technologies in the country. Besides action to develop an enabling framework, the plan can contain ideas for projects / well-designed project proposals that come from the priority technologies selected.**
- **Assist the Government in seeking political endorsement and integration of the TAP into national energy policy/development plans**
- **Conduct technical and economic appraisal and develop proposals for a few selected projects including establishment of a national centre of excellence for technology development and innovation**
- **Prepare and implement official launches of selected (high-profile) project proposals.**
- **Prepare and submit the Final Report**

## **6. Budget**

UNEP through URC will provide USD 120,000 (one hundred and twenty thousand US dollars.) to enable MOEF engage a local organization or a consortium of organizations hereinafter to be referred as “Contractor” capable of conducting the activities stated in this terms of reference.

## **7. Payment terms**

The payment for the services to be rendered by the Contractor is to be made directly to the selected Contractor in a designated account to be opened for this project. The modalities of the payment have to be agreed upon at the time of signing of the contract at the discretion of the Contracting Authority. An initial payment upon signing of the contract will be made and the proportion of this payment with respect to tendered amount will also be agreed upon during signing of the contract at the discretion of the Contracting Authority. Thereafter proportional payment commensurate with the progress of work as well as the final payment will be made that also is to be agreed upon at the time of signing of the contract.

## **8. Contractual conditions**

The contract will be proposed for agreement to the successful bidder. By submitting an offer, the bidder accepts the conditions mentioned in this terms of reference.

The tenderer must not include in the offer conditions, clauses etc. that are not specified as requested in, or that modify this Terms of Reference.

9. The tender must include:

- Tender submission form and tenderer's declaration;
- All the information and documents required by the MOEF for the appraisal of tenders;
- Description of the methodology and planning of the works, including the time horizon for delivery of each report and document, and organization of consultation meetings, management meetings and workshops;
- The details of educational and professional qualifications of each person providing the services and availability for the key experts;
- A fixed price: the tenderer must provide a total cost for the implementation of the project and a detailed itemized cost;
- A duly completed legal entity form;
- A duly completed banking reference form;
- Tenders can be submitted by consortium of service providers. However, a consortium of firms must nominate one party to be responsible for the receipt and processing of payments on behalf of the consortium, for managing the project, and for coordination.
- Wherever the tenderer is a consortium of firms, the tender should clarify the legal status of each of the partners and specify the role, qualifications and experience of each member of the consortium. The above mentioned legal entity form should be provided for each member.

## **10. Project team**

The tenderer must propose the project Team Leader and the members of the project team with their bio-data and the remuneration per month indicating the duration for engagement in the project.

The project team will liaise with and act under the instruction of the National Focal Point of the project designated by MOEF and the Project Advisory Committee established by MOEF.

## **11. Selection criteria to be considered for tender evaluation**

The contract will be awarded to the best technical proposal within the proposed budget. Criteria to be applied are as follows:

- quality in terms of technical quality of the offer assessed on the basis of the following sub-criteria:

- i. Overall technical quality of the proposal
- ii. Qualification and experience of the team leader
- iii. Qualification and experience of the team members
- iv. Method proposed for realizing the work
- v. knowledge demonstrated in the ongoing climate change negotiation process, particularly, with respect to technology issues

[Details of **educational and professional qualifications** of all the proposed experts providing the services (detailed bio-data have to be included for this contract).]

- The plan and strategy to complete the tasks mentioned in the statement of work in enclosure 1
- Evidence of the tenderer's **technical capacity** to perform the tasks involved in this contract notice.
- Evidence of the tenderer's **financial capacity** to perform the tasks involved in this contract.
- Evidence of delivery of services by the tender entity in other contractual services performed by them

An evaluation committee will compare the offers based on the above criteria and make necessary recommendation for action by the concerned authority.

**Enclosures of the Terms of reference:**

- 1: Statement of work (as attached)
- 2: Tender submission form including tenderer's declaration (as attached)
3. Banking references form (at the discretion of the bidder)
4. Legal entities form (as issued by the regulating authority)

## **Enclosure 1: Statement of Work**

### **Activities and Deliverables**

#### **1. Participate in the global project inception workshop**

##### Description and rationale of the activity

This is needed to get an overview of the project objectives, presenting the country experiences and status of TNA activities, and sharing experiences and expectations with participants from other countries. The country representatives will be identified to participate and make presentations covering country experiences, status of TNA activity updates and planned activities based on lessons learned to date.

##### Responsibility

Concerned ministry / Inter-ministerial Committee for TNA project

##### Deliverable

Country participation and presentation in the inception workshop.

**Note:** This activity has been carried out with the Inception Workshop held at UNEP DTIE, Paris on 17-18 February, 2010. The report and findings of this workshop will be provided to the Contractor.

#### **2. Appoint a TNA Team Leader and establish the TNA Team**

##### Description and rationale of the activity

The Project Advisory Committee will discuss the overall project implementation strategy, the team that will be constituted for project implementation, and assess the progress of implementation. The TOR of the steering Committee will be agreed upon on this broad task in the first meeting of the steering committee.

##### Responsibility

MOEF together with the Project Advisory Committee is responsible for the TNA Project

##### Deliverable

MOEF will act on the decisions of the Project Advisory Committee

### 3. Organise stakeholders<sup>1</sup>

#### Description and rationale of the activity

The process of stakeholder organization, to be led by the MOEF Focal Point, will include the following key steps:

#### **Activity # 1**

##### *3.1 Identify and establish a network of stakeholders*

Stakeholders are central to the TNA process because they will be intimately involved in any implementation. Identifying stakeholders is therefore important. They could include government departments with responsibility for policy formulation and regulation (e.g. power supply) and vulnerable sectors (e.g., agriculture), private and public sector industries, associations, electric utilities and regulators, technology users and/or suppliers within private sector, finance, households, small business, farmers (who are end users for selected technologies / options), relevant institutions (universities, consultants, etc.) and others (international organizations, donors). A network of stakeholders needs to be established to carry forward an implementation plan after completion of the project.

It is important to note that in many instances it has proved to be a good practice to work with two groups of stakeholders: a core group of direct participants and a wider group of affected and interested parties. It is therefore important to distinguish activities that will require direct and detailed input from these two groups, as follows:

- (i) **The core group** would deal with the most substantive issues of the TNA process such as management, resource assessment, technology costing and preparation of reports and other materials. It may prove effective to set up, during preliminary consultations, sub-teams or sectoral working groups to push ahead in specific areas;

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<sup>1</sup> The TNA handbook indicates the following links provide information on Stakeholder Analysis and other tools for selecting a group appropriate for the problem.

The Overseas Development Institute in the UK provides a range of tools at

[http://www.odi.org.uk/RAPID/Tools/Toolkits/Communication/Stakeholder\\_analysis.html](http://www.odi.org.uk/RAPID/Tools/Toolkits/Communication/Stakeholder_analysis.html)

and also refers to the following additional resources:

<http://www.stsc.hill.af.mil/crosstalk/2000/12/smith.html>

DFID Guidance note on how to do stakeholder analysis of aid projects and programs:

[www.euforic.org/gb/stake1.htm](http://www.euforic.org/gb/stake1.htm)

<http://www.scu.edu.au/schools/gcm/ar/arp/stake.html>

[http://www.scenarioplus.org.uk/stakeholders/stakeholders\\_template.doc](http://www.scenarioplus.org.uk/stakeholders/stakeholders_template.doc)

(ii) **The wider group of affected and interested parties** would participate in consultation and engagement activities, such as workshops, public hearings and consultation papers.

The groups should be identified both for mitigation and adaptation. Some members can be common across the two, which would be evident during the identification process.

## **Activity # 2**

### *3.2 Define the goals and objectives of the process in collaboration with the stakeholders*

This involves setting up a transparent process in which the purpose of the TNA is discussed along with the expectations and privileges of stakeholder involvement. Once agreed upon, this will lead to a clear sense of the goals and objectives of the overall TNA effort.

## **Activity # 3**

### *3.3 Clarify stakeholder roles*

Defining roles and responsibilities is an important part of the process of stakeholder engagement. The core team of stakeholders could be up to 20-25 persons at a maximum, of which up to 15 would be involved in any particular sector or technology analysis. In addition, a wider group of affected and interested stakeholders would also be involved. It is important to be flexible and identify activities that will require direct and detailed input from these two groups, and ensure that relative strengths and expertise are utilized as effectively as possible. The National TNA Team will facilitate the active participation of all relevant stakeholders in the prioritization of technologies, and in discussions on analyzing barriers and developing enabling framework for accelerating technology development, deployment and diffusion, and preparing Technology Action Plans.

## **Activity # 4**

### *3.4 Establish an ongoing process for stakeholder engagement*

Stakeholders need to be involved in each stage of the process, not merely at the beginning to provide direction and/or at the end to provide approval to the initiatives proposed. Therefore, a mechanism will be set up to ensure adequate and effective stakeholder involvement and consultation from the very beginning of the process. Working with a small core stakeholder groups with regular feedback from wider stakeholder groups can make the process manageable. For example, focus groups for consultation with core group, and workshops / questionnaires for consultation with wider group. A communications and outreach framework for the wide involvement of stakeholders will

be designed. Transparency in all decision-making and consultation activity is also required.

#### Responsibility for activities 1-4

Team Leader with the help of TNA team

#### Deliverables

- (i) A list of core stakeholders and wider group of stakeholders both for mitigation and adaptation
- (ii) Goals and objectives of the stakeholders consultation process
- (iii) Stakeholders roles and responsibilities
- (iv) Mechanism / process for stakeholder consultations

#### **Activity # 5**

#### **4. Establish baseline situation for the current technology development and transfer**

#### Description and rationale of the activity

The starting point of the technology needs assessment would be the collection and making an inventory of the presently available technologies as baseline. This process should also include current practices for development and transfer of technology with characterisation of the technologies, R&D practices, and adaptation of technologies, investment and technology policies, and the investment guidelines to assess as to what extent these are conducive to technology development and transfer.

#### Responsibility

Team Leader and TNA team, in consultation with the stakeholder

#### Deliverables:

List of current technologies with characterisation

- Investment types and contractual procedures in the private sector
- R&D situation in the country

#### **Activity # 6**

## 5. Set-up guidelines for the reports and related project activities

### Description and rationale of the activity

The TNA best practices reveal that agreeing on a clear set of guidelines (rules and procedures) that may be developed prior to starting the work has shown to be very effective for the TNA process. The guidelines may be developed, for example, for the following:

- (a) Guidelines on the structure and contents of the TNA and TAP reports. A suggested report template for the final report will be provided by the URC.
- (b) Guidelines for referencing data sources, information sources, etc. This is important for documentation purposes to ensure quality, consistency and overall efficiency when the reports are updated.
- (c) Guidelines on archiving information. An information storing system is important as the TNAs are intended to build upon data and information collected by other activities and generated and processed during the TNA.

Drawing on the TNA handbook and other relevant technical guidance materials, assisted as needed by advice from URC and other appropriate sources, the TNA Team will prepare and draft the guidelines. The Team Leader will then initiate and manage a fast-track consultative process leading to yield an acceptable set of guidelines to which all stakeholders agree to be committed.

### Responsibility

Team Leader and TNA team, in consultation with stakeholders.

### Deliverable

A set of guidelines for report structure, data referencing etc.

### **Activity # 7**

## 6. Develop a detailed draft work plan

### Description and rationale of the activity

The Team Leader will develop and agree with the team a detailed **draft work plan** with clear objectives, activities, deliverables, budget and final outputs. This may require, as a preparatory activity, review of the TNA and other related work already done in the

country- GHG Inventory, mitigation assessment, vulnerability assessment, NAPAs, national plans, national communications, and strategies etc.

A clear schedule of milestones for deliverables should be prepared. Overall schedule, milestones and budget is indicated in this document that should be detailed out when the project team is established.

Responsibility

Team Leader with the help of the TNA team.

Deliverable

Detailed draft work-plan with milestones and deliverables

**Activity # 8**

**7. Identify institutions for data and expert support**

Description and rationale of the activity

It is a good practice to identify various institutions that are the repositories of data and information, and expertise needed for the TNA. Collaborative arrangements with such institutions to engage them formally (through memorandums of understanding or other type of contractual agreement) are very important.

Responsibility

Team Leader with the help of TNA Team

Deliverable

List of the institutes with whom collaboration finalised for various requirements

**Activity # 9**

**8. Hold a national Inception Workshop and finalize the work-plan based on stakeholders feedback**

Description and rationale of the activity

The Team Leader will ensure that the workshop design produces maximum outcomes in terms of enhanced awareness and active engagement of a broader group of stakeholders, while generating the needed feedback on the draft work-plan.

The TNA team will finalise the work-plan based on feedback from the workshop and in consultation with stakeholders with milestone and deliverables including a mid-term and

final national workshops for outreach and dissemination, a mid-term report (TNA) and a final report (TNA+TAP combined).

#### Responsibility

Team Leader with TNA team

#### Deliverables

- (i) National Inception Workshop report
- (ii) Final work-plan

### **Activity # 10**

#### **9. Participate in the regional Capacity Building and Experience Sharing Workshops**

##### Description and rationale of the activity

The project is designed to provide training on methodology and tools to accelerate the process of TNA preparations. Regional workshops for sharing experiences with other countries involved in the TNA project in the region have also been planned. See the section on “Capacity building, technical support and other support” for more details. Project coordinator, in consultation with the TNA team, depute appropriate members or experts, who would be responsible for delivery of end products (prioritized list of mitigation technologies, prioritized list of adaptation technologies, economic assessment and enabling frameworks for mitigation technologies, enabling framework for adaptation technologies, TAP etc) to the relevant regional capacity building workshops. The participants to these workshops will also be responsible for providing training to other concerned members, working on these items in the country.

Similarly, appropriate representatives will be deputed to the regional experience sharing workshops to present TNA work experiences in the country and share experiences with other countries. Feedback will be provided to UNEP/URC on the assessment of the capacity building workshops by the participant(s) on return to the country.

#### Responsibility

Team Leader and TNA team

UNEP/URC (for out of country training)

#### Deliverables

- (i) Participation in the regional capacity building workshops
- (ii) Participation and presentation in the regional experience sharing workshop,

(iii) Knowledge gathered through workshop processes.

## **Activity # 11**

### **10. Prioritize Sectors and Technologies for Mitigation and Adaptation**

#### Description and rationale of the activity

A core objective of the project is to enable countries meet their development priorities while maximizing sustainability outcomes, particularly GHG emission reduction and adaptation to climate change. Achieving this objective entails a prioritization of sectors and technologies, followed by the systematic removal of barriers to the accelerated transfer of environmentally sustainable technologies, as elaborated in the sub-activities described below.

#### *10.1 Prioritizing mitigation technologies*

The process starts with identification of a country's development and sustainability priorities, with particular attention to GHG emission reduction potentials. This is followed by identification of priority sectors by the TNA team on the basis of the GHG emission reduction potential and contribution from low carbon technology investments in these sectors to sustainable development. The selection of number of sectors would keep in view the limited budget and time available to complete the project. Once this is accomplished the TNA team will constitute working groups consisting of technical experts and practitioners within each of these sectors. The functioning of these working groups would be facilitated by the TNA project office. The working group would first enumerate all the technological options and characterise them in terms of technology level and type, their costs and sustainability impacts (environmental, social and economic). A template for this would be available from the URC. In this exercise the working group could use online technological databases or solicit international expertise through URC. After this a prioritization of the technologies would be carried out by the group. The prioritization exercise would be done using the Multi Criteria Decision Analysis. In this manner low carbon technologies would be identified and characterized for the selected priority sectors.

The technologies identified for the priority sectors can also be categorized according to their short or medium to long term availability and whether their implementation takes place on a small or large scale. The categorization allows a method for a technology strategy to be formulated over time, and assists in identifying key technologies that may not necessarily have the highest priority in the sectors, but would be useful across a number of sectors. Finally, the sector technologies in each category will be prioritized through a multi-criteria decision assessment method.

The process would follow the formation of stakeholder groups and experts.

#### *10.2 Prioritizing adaptation technologies / measures*

As in case of mitigation, the process involves prioritizing sectors and developing a portfolio of prioritized technologies for adaptation. Technologies could be hard technologies involving equipment and infrastructure investment, or soft technologies, i.e. insurance schemes, forecasting and warning for disasters and crop planting and harvesting, and crop rotation for adaptation.

#### Responsibility

Team Leader and TNA team, with the help of stakeholders and relevant experts.

#### Deliverable

Lists of prioritized of technologies for mitigation and adaptation, along with description of the process (including stakeholders engagement) that was followed.

**Note:** Detailed methodological guidelines for prioritizing mitigation and adaptation technologies would be provided by URC at the capacity building workshops

### **Activity # 12**

#### **11. Prepare the prioritized technologies report (TNA report)**

#### Description and rationale of the activity

This is the mid-term report of the project, signalling end of an important component of the project. It should contain a list of the prioritized technologies, both for mitigation and adaptation with complete project background and methodology, and structured in the format agreed for the project with URC.

#### Responsibility

Team Leader and the TNA team.

#### Deliverable

TNA report, containing prioritized list of technologies for mitigation and adaptation, describing the process followed.

### **Activity # 13**

## **12. Carry out economic assessment- analyze barriers and develop an Enabling Framework for deployment and diffusion of prioritized technologies**

### Description and rationale of the activity

Analyse barriers and develop an enabling framework (internal and external) for prioritized technologies. It could include;

- Policy Analysis
- Financial Issues Analysis
- Legal and Institutional Analysis
- Economic assessment and mapping etc.

The output from analysis would be identification of specific actions in these domains to remove barriers. Capacity building workshops will include inputs on market assessment and mapping, including barriers analysis, and development of enabling framework.

### Responsibility

Team Leader, with the help of TNA team, stakeholders and appropriate experts

### Deliverables

- (i) Economic assessment / barriers analysis for the prioritized technologies
- (ii) Enabling framework for prioritized technologies, indicating specific actions

## **Activity # 14**

## **13. Prepare a Technology Action Plan (TAP)**

### Description and rationale of the activity

This contains an action plan for deployment and diffusion of identified technologies in the country. Besides action to develop an enabling framework, the plan can contain ideas for projects / well-designed project proposals that come from the priority technologies selected.

### Responsibility

Project coordinator and the TNA team, with the assistance of relevant stakeholders

### Deliverable

TAP in the format agreed for the project with the URC.

## **Activity # 15**

#### **14. Seek political endorsement and integration of the TAP into national energy policy/development plans**

##### Description and rationale of the activity

This is a bridging action between submission of the TAP and the actual implementation of the TAP. The project coordinator and the TNA team, will prepare a proposal with guidance from the steering committee, and submit it to the concerned ministry / inter ministerial committee. The ministry / committee then would seek the political endorsement of the TAP from the relevant forum. This is with the view to get its recommendations subsequently integrated in the appropriate national policies and plans.

##### Responsibility

- (a) Team Leader for preparation of proposal for seeking political endorsement of the TAP and integration of TAP in the appropriate national policies and plans.
- (b) Concerned ministry / inter ministerial committee for seeking political endorsement of the TAP and integration of TAP elements in the plans and policies, with inputs from the Team Leader and Project Advisory Committee.

##### Deliverable

- (i) Presentation and report on identified elements of the TAP for inclusion in national plans and policies
- (ii) Action taken by the concerned ministry /.

#### **Activity # 16**

#### **15. Conduct technical and economic appraisal and develop proposals for a few selected projects including possible establishment of a national centre of excellence for technology development and innovation**

##### Description and rationale of the activity

In case of countries that are in advanced stage of TNAs, some proposals could be developed. Project ideas in brief are covered by TAP. Some of these can be developed further, including the techno-economic appraisal

##### Responsibility

Team Leader with the TNA team and other experts.

##### Deliverable

A few selected project proposals

## **Activity # 17**

### **16. Prepare and implement official launches of selected (high-profile) project proposals.**

#### Description and rationale of the activity

Mainly a political/ awareness building/ stakeholder support mobilization exercise that puts the TAP into the public domain for subsequent public scrutiny, A few project proposals will be selected, funding accessed and projects officially launched.

#### Responsibility

Concerned ministry / inter ministerial committee, with necessary inputs from project coordinator and TNA team.

#### Deliverables

Report on official launch of a few selected projects.

## **Activity # 18**

### **17. Prepare and submit the Final Report**

#### Description and rationale of the activity

The report would contain both prioritized list of technologies, and action plan to deploy and diffuse the technologies. This is the final report, which should combine TNAs and TAPs and report on subsequent actions, including on project proposals and official launches of projects.

#### Responsibility

Team Leader, with the help of TNA team

#### Deliverable

Final project report in the agreed format for the project with URC.

## **2. Capacity Building and Technical support**

The current round has been designed to provide technical support in addition to the financial support. Capacity building workshops will be one of the activities for the

technical support. These will cover approach for prioritization of mitigation and adaptation technologies, economic assessment and barriers analysis, and development of an enabling framework, leading to TAPs. Access to technology data will also be facilitated, wherever needed. The project would facilitate access to data by building up a common platform to share data between countries. Countries can identify technical support and capacity building needs and communicate to URC to enable them to address their needs. Thus, depending on requirements, technical support could include methodological tools (multi criteria tool, Economic analysis, and market assessment tool), UNDP hand-book, and training and related guidance documents.












### 3. Time Frame and Milestones

The global Inception Workshop of the 15 participant countries has already been held in UNEP DTIE office in Paris on 17-18 February. The project activities would start in May 2010 and project would be over in 18 months in October 2011.

**Work-plan containing activities and time schedule is included as Annex 1, and milestones are indicated in Annex 2.**

**Annex 1: Work-plan and schedule for Bangladesh**

Act. no.	Activity	2010				2011			
		1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24
	Year	Month							
	Participate in the global project inception workshop (activity completed)	■							
4.2	Organise a TNA institutional arrangement and Establish the TNA Team		■						
4.3	Organise Stakeholders		■						
4.4	Baseline situation for technology development and transfer		■						
4.5	Set-up guidelines		■						

4.6	Develop a detailed draft work plan								
4.7	Identify institutions for data and expert support								
4.8	Hold National Inception Workshop and finalize the work-plan based on stakeholders feedback								
4.9	Participate in Regional Workshops (a) Capacity Building workshops (b) Experience Sharing Workshops								
4.10	Prioritizing Sectors and Technologies								
4.11	Prepare the prioritized technologies report (TNA report)								
4.12	Carry out economic assessment- analyze barriers and develop an Enabling Framework for deployment and diffusion of prioritized technologies								
4.13	Prepare a Technology Action Plan (TAP)								

**Enclosure - 2**

**(Preferably on letter head of the tenderer)**

**TENDER SUBMISSION: To be completed by the authorized signatory of the tenderer with one signed original and three copies** of the submission and each of the documents mentioned in it must be supplied.

**1. SUBMITTED by  
Tenderer name**

In the case of a consortium, insert the agreed name of the consortium

**2. STATEMENT**

I, the undersigned, being the authorized signatory of the above tenderer (including all Consortium partners, in the case of a consortium), hereby declare that we have examined and accept without reserve or restriction the entire contents of the tender statement for the tender procedure referred to above. We offer to provide the services requested in the tender statement on the basis of the following documents, which comprise our technical and financial offer, which is submitted in a sealed envelope:

- Declaration (see below) and all documents as specified in the submission (including one from every consortium partner, in the case of a consortium)

Signed on behalf of the tenderer.

**Name**  
**Signature**  
**Date**

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**(Preferably on letterhead of the tenderer)**  
**TENDERER'S DECLARATION(S)**

**To be completed and signed by the tenderer**  
**(Including one from each consortium partner, in the case of a consortium).**  
**Database (section Exporter's Guide to Import Formalities)**

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In response to your letter of invitation to tender for the above contract, we hereby declare that we:

- nominate the following person to act on our behalf for the purposes of this tender and any subsequent contract based on it:

**Name**  
**Position**  
**Organization**

<Signature of authorized representative of the tenderer>