BANGLADESH FLOOD ACTION PLAN

Ministry of Water Resources

Flood Plan Coordination Organization (FPCO)

Environmental Impact Assessment Skills Training

Trainer's Manual

Volume I: Training Procedures

April 1995

Prepared by

Environmental Study

FAP 16

ISPAN

IRRIGATION SUPPORT PROJECT FOR ASIA AND THE NEAR EAST

Sponsored by the U.S. Agency for International Development

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The training design, materials development, and initial field testing were done by a team of training and environmental specialists from the United States in collaboration with the ISPAN/FAP 16 scientists who did the original environmental study and wrote the Environmental Impact Assessment (EIA) Guidelines.

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The manual was revised after it was field tested in four EIA skills workshops by the FAP 16 training team. With each training experience, the team modified the materials in order to address trainee needs and interests, the realities of time and local logistics. ISPAN would like to acknowledge the contributions made to the second edition by: Asgari Ahmad, Mustafa Alam, Darrell Deppert, Abu Md. Ibrahim, Khurshida Khandakar, Mokhlesur Rahman, Haroun Er Rashid, Qazi Salimullah, and Dara Shamsuddin.

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PART 1: INTRODUCTION TO THE EIA SKILLS WORKSHOP TRAINER'S MANUAL

Needs Addressed by the Workshop

The workshop presented in this training guide is designed to improve the skills of engineers, social scientists, environmental scientists, and other specialists working in the field of natural resources who perform and/or review environmental impact assessments. It accompanies the Environmental Impact Assessment Guidelines developed by the Irrigation Support Project for Asia and the Near East (ISPAN) as part of the USAID-funded Eastern Waters Initiative (EWI) in collaboration with the Flood Plan Coordinating Organization (FPCO) and the Department of the Environment (DOE).[1]

In January of 1993, an EIA training needs assessment of 28 Dhaka consulting firms and 5 parastatal organizations revealed that there was a strong interest in a training program that would develop a group of specialists as either EIA practitioners or reviewers.[2] This workshop responds to that need.

The four-week workshop focuses on the EIA process outlined in the EIA Guidelines. The subject matter is divided into 8 modules, each module reflecting a stage in the process plus an introduction to the workshop and an introduction to the methodology.

The methodology used in the workshop is based on the research into the theory of adult learning developed by Dr. Malcolm Knowles, Professor Emeritus of North Carolina State University. It uses an experiential learning model that attempts to involve the participant in the learning process to the fullest extent possible. The training aims to develop skills in applying the knowledge the various participants have, within the framework of the EIA process. Toward that end, the focus is less on providing extensive and detailed information about content and more on allowing the participant to see how his or her learning can be profitably used in the EIA process. The workshop further tries to help the participant to understand the importance of the multidisciplinary approach to the overall importance of EIAs in successfully implementing projects.

1. Adult Learners

Workshop Assumptions

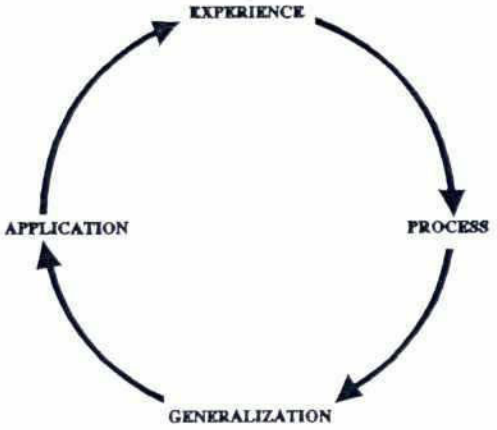
This workshop assumes that adults differ from children in, among other things, self-concept, experience, readiness to learn, and their perspective in applying what they have learned. Research shows that adults find learning most enjoyable—and easiest to recall—when they can build on their experiences. Experiential learning provides a framework that enables adults to learn from experience.

The experiential approach is learner-centered. It requires that the trainer provide the participants with the opportunity to engage in an activity, review it critically, draw useful insight from this analysis, and apply the insight in a practical situation. The participants, in turn, share responsibility for their learning with

[1]The EIA Guidelines were approved by FPCO in October 1992.

[2]See FAP 16 Environmental Study EIA Proposed Training Plan, ISPAN, March 1993.

the trainers. The learning process is divided into four stages and often is shown as an "experiential learning cycle" (ELC). Stage one is the **experience**—an initial activity that provides data or introduces new information. In Stage two, the **process** stage, the participant reflects on the activity just undertaken. In Stage three, the **generalization** stage, the participant analyzes the experience and compares the conclusions drawn to other experiences in their lives. In Stage four, the **application** stage, the participants look to see how, in the real world, they would use what they have just learned. Below is a diagram of the ELC.



2. The Trainers

The trainers using this guide are assumed to have had considerable experience working in natural resources or the environment with reference to EIA. They should have significant professional training in at least one of the content areas. Ideally, the trainer should have already attended the EIA Skills Workshop as a participant. In addition, the trainer must have attended a Training of Trainers Workshop in order to know how to organize and facilitate a workshop using active, participatory, adult-learning methods. The Training of Trainers Workshop should have focused on facilitating small groups, using the seven-step design model (see Part III), and managing an experiential learning workshop. In particular, trainers should have skills in delivering interactive lecturettes, running small group exercises, and facilitating participants' abilities to draw conclusions from the experience and develop plans for more effective behavior in the future.

3. The Participants

The participants trained with this guide are drawn from both the public and the private sector. It is likely that the participants from the private sector will focus more on the performance of EIA fieldwork and the participants from the public sector will focus on the review of the final report. Both will benefit from the workshop. One will have learned how to implement the process in the field, and the other will understand what is involved in collecting the data on which the report was written.

The workshop is based on the assumption that in either sector the participants have had significant professional training and/or experience in natural resources development. It assumes the participants have an informed interest in environmental issues in Bangladesh.

4. Number of Participants

The ideal number of participants in a workshop is 12. The total number should never exceed 15, as it would be impossible for the trainer, either alone or as part of a team, to ensure that each participant has developed his or her skills sufficiently to actually do the work.

PART II: OVERVIEW AND GOALS OF THE EIA SKILLS WORKSHOP

1. Overview

This manual describes a four-week workshop that develops the skills needed to review EIA reports once they are prepared using the EIA Guidelines and Manual.

The workshop uses a linear modular approach; that is, the individual modules are completed in sequence. The workshop begins with an introduction to the goals and objectives of the workshop followed by some background on experiential training so that the participants understand this new approach. Next, the trainers introduce the important skills that EIAs practitioners and reviewers need. Finally, the trainers focus on learning activities indicating that the trainees have acquired these skills.

2. Workshop Goal

The goal of the workshop is: to develop a group of specialists in EIA from the public and private sector who will be able to use the EIA Guidelines to assist the Ministry of Irrigation, Water Development and Flood Control (MIWDFC) and the Ministry of Environment and Forests (MOEF) in reviewing EIAs, and implementing environmental management programs for new projects.

3. Workshop Objectives

By the end of the workshop participants will be able to:

- use the EIA process as a tool to study on the potential environmental effects of the proposed projects to make them more sustainable;
- understand the importance of people's participation in the overall EIA process;
- identify important environmental components (IECs) in order to develop the boundary of the study area and scope of the study;
- develop baseline data by selecting techniques and models to measure and quantify impacts;
- identify hazards and their associated risks in order to assess, evaluate, and mitigate impacts;
- understand and assess environmental impacts in order to determine their effects;
- document EIA activities in reports, and manage the exchange of information with team members, project officials, and local people;
- understand the relationship between the EIA report and the Environment Management Plan; and
- understand the mechanics of the EIA review as a part of the planning process, and to

determine whether an EIA has been adequately performed according to the Guidelines and Manual.

4. Training Site Requirements

This workshop requires a room large enough for 12 to 15 participants (suggested size: no less than 10 by 8 meters) and at least two small rooms that permit six people to sit at a table where they can do the small group exercises. It is extremely helpful if the large room can accommodate the participants in a fan-shaped arrangement wherein the participants sit four or five to a table and the three tables are arranged in the shape of a fan in front of the trainer. In this way each participant has an unobstructed view of the trainer, and each table serves as a small group for discussions. The site could be a hotel, a training institute, or any other place with sufficient space. Ideally, the trainers will have three or four flipchart easels and plenty of paper, markers, and masking tape. An overhead projector, a slide projector, and a large map of Bangladesh would greatly enhance the workshop.

5. Preparation for the Workshop

The workshop requires careful planning. Many arrangements must be made prior to the start of the training. The following table indicates the key steps and time frames for planning and implementing the workshop.

Activity	Time Completed Before Workshop
Recruit and select participants	2 months
Identify the training staff (trainers, resource people, workshop coordinator, secretaries, etc.)	2 months
Obtain background information on the participants	2 months
Select the training site	2 months
Arrange transportation	1-2 months
Arrange site visits	1 month
Arrange for guest speakers at the Opening Ceremony	1 month
Prepare workshop materials and handouts	1 month
Prepare for training (develop lecture schedule for staff, prepare individual trainer materials, check the handouts, arrange for tea and transport, etc.)	2 weeks
Conduct final preparations (set up training room, move all training materials to the site, perform individual run-throughs of the material, etc.)	2 days
Begin training	

PART III: USING THE EIA SKILLS WORKSHOP TRAINER'S MANUAL

1. Training Approach

The workshop is designed to meet its overall goal through an approach that is consistent with adult learning needs. The participants are expected to take an active role in their learning based on their experiences in the environmental sector.

The training content is divided into modules, and the modules are divided into sessions. Please note that it is important not to confuse module and session. A **module** is a complete unit of instruction that includes all the material needed to teach a skill or task. A **session** is a unit of expression that focuses on one aspect of the module. Thus a module contains several sessions, each session devoted to a different aspect of the subject matter.

Module 1 is the course introduction. Modules 2-8, as shown in the table below, correspond to the stages in the environmental impact assessment process found in the EIA Guidelines. Thus, the modules are most effectively taught in succession.

EIA Process Stage	Module
Stage 1: Project Design and Description	Module 2: Introduction to EIA in the Water Sector
Stage 2: People's Participation	Module 3: People's Participation
Stage 3: Environmental Baseline Description	Module 4: Developing Environmental Baseline
Stage 4: Scoping	Module 4: Developing Environmental Baseline
Stage 5: Bounding	Module 4: Developing Environmental Baseline
Stage 6: Major Field Investigations	Module 4: Developing Environmental Baseline
Stage 7: Impact Assessment	Module 5: Impact Assessment
Stage 8: Impact Evaluation	Module 5: Impact Assessment
Stage 9: Environmental Management Planning	Module 6: Environmental Management Plan
Stage 6: Feedback to Improve Project Design	Module 7: Documentation, Communication, and Reporting
Stage 7: EIA Reporting	Module 7: Documentation, Communication, and Reporting
Stage 8: EIA Review	Module 8: EIA Review/EIA Study

Each session focuses on one important aspect of the module. Each of the sessions is designed to take the participants through a seven-step process that allows them to experience a presentation (which may be an interactive lecturette, case study, demonstration, role-play, or small group task or exercise), analyze the experience, draw conclusions from it, and examine possible ways of applying the conclusions in the real world.

INTRODUCTION

The seven-step design model is as follows:

Step 1: *Set the climate* in order to stimulate interest in the subject and stress its importance.
Step 2: *Clarify the objectives* so that participants are clear about what they are learning and why.
Step 3: *Introduce the experience* through a lecturette, exercise, demonstration, etc. to provide the information the participants can analyze.
Step 4: *Process the experience* by allowing the participants to reflect on the experience and compare it to other experiences they have had.
Step 5: *Generalize* from the experience by helping the participants draw important conclusions about the experience.
Step 6: *Apply* the conclusions by assisting the participants to decide how they might use the conclusions drawn from the experience in the future.
Step 7: *Wrap-up* by discussing whether the objective of the session has been met. The trainer then links the session to the rest of the program.

When using this guide, the trainer will find that there are two types of information provided. The first consists of the information about the **module**; the second consists of information about a particular **session**. Both sets of information are designed so that they fit into the seven-step model. They are discussed below.

A. Modules:

A module, which provides the big picture, consists of three sections:

1. *Module Objective* — This is the general objective or reason for teaching for the module. It is reproduced on a flipchart and should be used to introduce the activities that will occur during the subsequent sessions.
2. *Overview* — This is resource material for the trainer to use in presenting the module's objective.
3. *Generalization and Application Questions* — This section consists of sample questions that the trainer might tailor for the individual sessions under the module. Additional generalization and application questions are found in each session.

B. Sessions

A session may consist of up to seven different activities. Each session is designed to meet a specific objective or objectives. Each of the potential steps in a session is discussed below.

1. *Introduction* — The introduction sets the climate by asking questions about the participants' experiences with the subject matter and presents the session objectives. The objectives should be written out on a flipchart.
2. *Presentation and/or Exercise* — Typically, there is a brief paragraph suggesting an approach to delivering a lecturette, or instructions to continue with a previous activity, or instructions to perform an individual or group exercise or lead a group discussion. These activities are part of the experience portion of the Experiential Learning Cycle. Use a flipchart to explain the activity to the group. Take time to be clear about the amount of time available for the task, and the type of output expected: recorded on flipchart, for example, or reported out to the whole group. Ask for questions and answer them. Then divide the group into smaller working groups. Participants

do the task, make presentations, and ask each other question.

3. *Analysis* (Generalization and Application) — The trainer leads the discussion using generalization questions that help the participants to draw key learning from the experience, and compare the conclusions to other experiences they have had. In concluding the session, the trainer might pose questions that lead the participant to see how key learning from the experience can be applied outside the classroom. For this portion of the session, the trainer might tailor to the individual sessions the generalization and application questions found at the beginning of module.
4. *Daily Conclusion* — This is an opportunity for the trainer to link the session material back to the session objective, and forward to the next session.
5. *Module Synthesis and Journal* — This occurs at the end of a module. The purpose is to allow the participants to summarize what they have learned during the module. Generally, questions are provided in the manual to help in guiding the students to summarize their experience. Asking generalization and application questions from the sessions also can help the participants to summarize their learning. After the wrap-up session, distribute the journal. Please explain that journals are not tests, but a diary which with to record important things about the module they wish to remember for the future.
6. *Weekly Synthesis* — This is a way to wrap up the entire week's activity. The purpose is to relate all of the various modules into a whole. Use generalization and application questions from the entire week. It is a good idea to lead the participants from the first day up to where you are. This synthesis will demonstrate both to the participants and to the instructors that true learning has taken place. After the synthesis is complete, close the week and tell the participants to have a good weekend.

This guide is designed to be used by a team of at least two trainers. When using a team of trainers, called co-training, trainers share the responsibility for delivering the material. This can be done by having two or more trainers share responsibility for delivering a single session, with each one preparing and delivering one or more steps of the seven-step model in alternating fashion. Below is an example of how session responsibilities might be organized if a single session is presented by a team of trainers:

Introduction/Lecturette	Trainer #1
Small Group Exercise	Trainer #2
Large Group Discussion	Trainer #1
Generalization/Application	Trainer #2
Wrap-Up/Closure	Trainer #1

An alternative is to have each trainer prepare and deliver a single session using all seven steps of the design model, and alternating the sessions with other trainers. Below is an example of how session responsibilities might be organized if alternating sessions are used:

Session 1	Trainer #1
Session 2	Trainer #2
Session 3	Trainer #1
Session 4	Trainer #2

It is important that smooth transitions be made between the parts of a session or between sessions. It is particularly important that the trainers agree on the objectives and the approach and do not present materials in a way that the participants feel is contradictory.

This approach in this workshop requires close supervision and coordination. This is most effectively handled by selecting one member of the team to be the Lead Trainer for a particular session, or group of sessions. The lead trainer is responsible for the supervision and coordination of the team. Lead Trainers may change with each module or at some other convenient, natural breaking point in the workshop.

Co-training permits the trainers to follow closely the participants' acquisition of knowledge and skills, equitably distribute the teaching workload, provide different points of view to the participants, improve the participants' EIA skills by providing on-going feedback, and remain flexible enough to adjust the workshop to better respond to the needs of the participants.

2. Finding Your Way Around

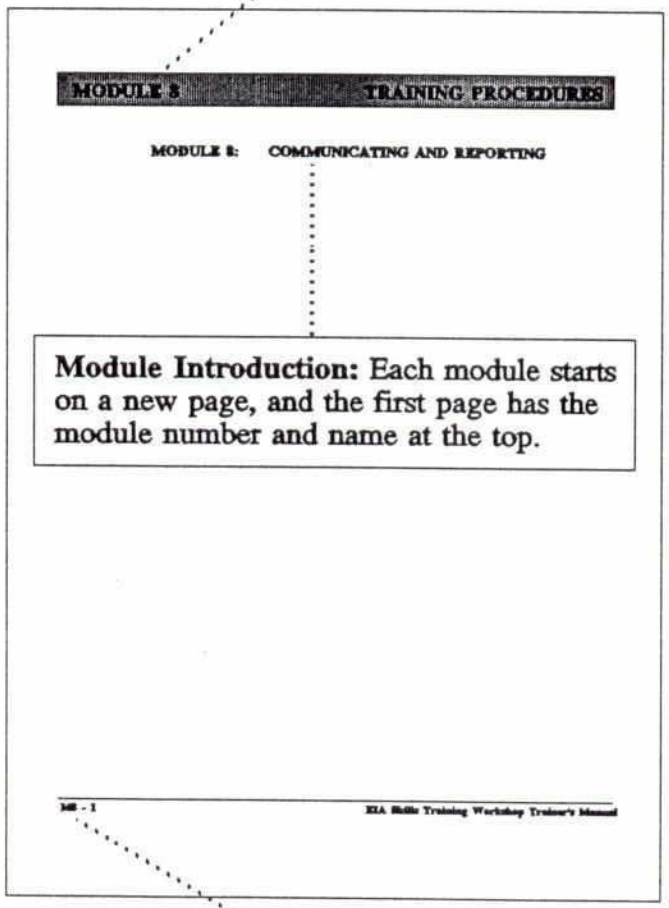
This manual has been structured in a way that makes the materials easy for the trainer to use. Volume 1 contains all of the training procedures and their associated exercises and handouts. Volume 2 contains supplemental handouts.

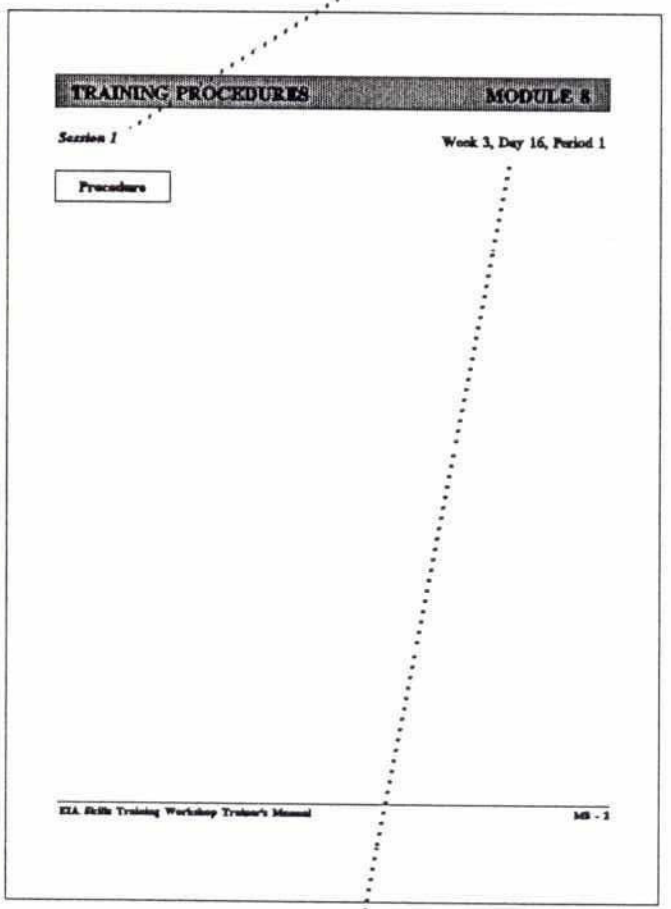
Within Volume 1, the materials are separated according to module, and each module is indicated by a tabbed separator. Each module starts with a module introduction, and it is followed by descriptions of the session procedures and the exercises and handouts. Each session and module begins on a new page, and they are printed front and back to conserve paper (this is an environmental project after all). The diagram on the following page shows samples of how the pages are laid out to provide the information necessary to determine where you are in the manual. Separator pages distinguish the training procedures from their associated exercises and handouts. The exercises and handouts are printed on one side to facilitate duplication. The pages of the exercise materials and handouts pages are numbered (at the bottom center of the page) only for multi-page documents.

Within Volume 2, the materials are separated according to module, and each module is indicated by a tabbed separator.

Module Number: Each page of the module training procedures has the module number printed at the top outside edge of the page.

Session Number: Each session starts on a new page and has the session number in the upper left corner of the page.





Module Introduction: Each module starts on a new page, and the first page has the module number and name at the top.

Page Number: The pages are numbered consecutively within the module at the bottom outside edge of the page. The page number includes the module number.

Schedule Information: On the first page of each session, at the upper right corner of the page, is an indication of the week, day, and period the session should be taught.

MODULE 1

TRAINING PROCEDURES

MODULE 1: WORKSHOP INTRODUCTION/CLIMATE SETTING

Total Time: **3 hours**
(2 periods)

1. Module Objective

By the end of the module trainees will have:

- Had an opening ceremony.
- Introduced themselves to one other.
- Shared their expectations.
- Been introduced to the program.
- Agreed on norms for guiding the workshop.

2. Overview

The purpose of this module is to introduce the workshop, give people a chance to meet one another, describe the program and the approach, agree on the schedule, and establish norms for running the workshop. The underlying purpose of the module is to put people at ease about attending the workshop.

Session 1 Week 1, Day 1, Period 1

Procedure

1. Opening Ceremony

Welcome the group and introduce the training team.

Introduce the objectives of the workshop. Flipchart: Program Objectives

Introduce the speakers and, following their speeches, thank them for their remarks.

(Trainer Note: Introduce speakers in order of their rank. The person who is highest in rank speak last. The person lowest in rank will speak first. If this session goes longer than an hour it is a good idea to take a tea break allowing the speakers an honorable way to depart.)

Session 2 Week 1, Day 1, Period 2

Procedure

1. Introductions/Ice-breaking Exercise

Ask the participants to introduce themselves.

2. Group Expectations Exercise

Ask the participants what they expected when they received the invitation to the workshop? Ask what they hoped would happen, and what they hoped would not happen? Record their answers on the board.

3. Program and Schedule

Introduce the program. Flipchart: Program

Compare the expectations of the participants and the program pointing out where they are similar and where they are different. If the differences are small and the group feels strongly about those differences, see what suggestions can be incorporated. If the differences are large, explain that their expectations are outside the scope of the program, but if enough interest exists perhaps something could be arranged after hours.

Introduce the schedule. Flipchart: Schedule

Explain the schedule to the participants. Tell them that the workshop is divided into eight modules and that each module is divided into a number of sessions. Explain what the modules are and how they flow into each other. Introduce the field trips. At the end of the session hand out the schedule. Handout: Schedule.

Ask participants if they have any problems with the schedule. Talk about logistics (travel, tea, and question bag).

4. Setting Norms

Ask the participants to help establish some guidelines to govern the workshop. It is helpful if the participants set the norms, but if they hesitate, these are generally the situations that need norms:

- Starting on time.
- Taking responsibility for their own learning.
- Helping one another.
- Speaking one at a time.
- Actively participating in every session.
- Smoking policy (explain in terms of regard for the health of their neighbors).

You can record the norms on a flipchart or have them written on a flipchart to save time Flipchart A-3: Norms. Post the flip chart in a place where it can be seen by all throughout the training program.

5. Methodology

The trainer's objectives are:

- to introduce different approaches to training;
- to introduce the difference between didactic and experiential learning; and
- to show implications for the workshop.

1. Begin by explaining two new words: pedagogy — whose root is "paido", the Greek word for child, is the study of the way children learn. The focus is on the child.

Andragogy — whose Greek root, "aner", meaning man (used to distinguish boy from man), is the study of the way adults learn. The focus is on the adult.

2. One way of looking at the difference is to look at the expectations of the two groups.

Expectations of the Child	Expectations of the Adult
expect to be told what he or she needs to think and do because they have limited experience.	expect to be able to decide for themselves and test against their experience. (They were not born yesterday.)
expect to have questions answered for them.	expect to find out for themselves or at least have some say in the process.
expect that the information will be valuable at "some time in the future" in "some way".	expect that the information will have some immediate value; they will ask "how soon?".

3. This leads to three general ways to approach training.

1. Authoritative — the trainer lectures the participants. The participants remain passive.
2. Collaborative — the trainer and the participant share responsibility for the learning that takes place.
3. Facilitative — the participant indicates what he or she wants to learn and the trainer facilitates the learning process.

All three are valuable in different kinds of circumstances.

4. In this workshop we will use the collaborative approach. This means that we expect the participant to take an active role in learning. (Draw the teacher/student relationship — one passing information down to the other, and then draw a collaborative relationship — each person on an equal footing bringing their experience to the classroom to be shared with the others, allowing everyone to take from one another.

The method we will use is designed to focus on giving participants the skills to do EIAs not just knowledge about them.

(Trainer Note: Use the surgery model. If you had to have your appendix taken out, would you want a surgeon who had read a book on surgery (content only) or a surgeon who had already operated on someone and the patient got well (skills)?).

In each session, the trainer and the resource person will give the participants a lecturette and introduce a practical exercise on which to work. Each participant will be expected to think about the exercise, draw lessons from it, and decide how they would apply it to their real work. The trainer will encourage the participants to look back on decisions they have made on past projects, etc., and in view of what they have just learned, decide if they would have made a different decision, and what that would mean for the future. Thus, the work follows what is known as the learning cycle: experience — reflection — generalization — and application. Outline the learning cycle and go through the steps of the cycle. Flipchart: Learning Cycle

The important thing to remember is that you, the participant, will get out of this workshop what you put into it.

Dugan Laird, in his book *Approaches to Training and Development,* points out that, "learning is a verb, not a noun. It is a journey, not a destination."

Explain that this is the cycle we will be following as much as possible in our classes. A participant's success therefore depends on his or her willingness to take charge of their own learning, and to share their own experience with the rest of the group.

Networking: Remind people that they are EIA resources for each other. It is a good idea for them to get to know each other well and to follow up with their newly formed connections after training.

6. Pre-test

Distribute Handout A: EIA Process Pre-Test

(Trainer Note: If there is time in the morning, distribute it then).

Explain to the participants that the pre-test is not a test per se, but is used as an educational tool. Tell them that they will take an identical test at the end of the workshop. The test will help them focus on what they know. At the end of the workshop they will be able to compare what they knew when they started with what they learned. The test will also help the trainers to evaluate the program.

7. Wrap Up

Return to the program and explain that now we are about to begin learning about EIA and the project development process.

MATERIALS

Flipchart: Program Objectives
Flipchart: Program
Flipchart: Schedule
Flipchart: Learning Cycle

Handout: Pre-test
Handout: Schedule

MODULE 1

EXERCISES AND HANDOUTS

The materials on the following pages are intended for duplication and distribution to skills workshop participants. Each numbered exercise corresponds to a number that appears following the description of the exercise in the Training Procedures section. Supplemental handouts for the module are located in Volume II of the Trainer's Manual.

Pre-test Questions

Name: _____ Date: _____

1. What is EIA?

2. Why is Environmental Impact Assessment (EIA) important in project development?

3. Why is people's participation important in an EIA?

4. In the context of a project, how do you identify Important Environmental Components (IECs)?

5. What are the steps involved in carrying out an EIA?

6. Why do we need baseline information to do an EIA?

7. How can we assess impacts of projects on environment?

8. What is the purpose of Environmental Management Plan (EMP)?

SCHEDULE
EIA SKILLS WORKSHOP, 1995

Day	Time	Session
1	08:50 - 09:00	Registration
		MODULE 1: Workshop Introduction
	09:00 - 10:00	Inauguration
	10:00 - 10:30	Break
	10:30 - 12:15	Workshop Opening
	12:15 - 12:45	Break
		MODULE 2: Introduction to EIA in the Water Sector
	12:45 - 14:15	Need of EIA
	14:15 - 14:30	Break
	14:30 - 16:00	Habitat & Ecosystem
2	08:50 - 10:30	Place of EIA
	10:30 - 10:45	Break
	10:45 - 12:15	EIA Process
	12:15 - 12:45	Break
	12:45 - 14:45	Impacts of Structures Module Synthesis Journal
	14:45 - 15:00	Break
		MODULE 3: People's Participation (PP)
	15:00 - 16:30	Importance of PP
3	08:50 - 11:00	PP Methodology Module Synthesis Journal
	11:00 - 11:15	Break
		MODULE 4: Developing Environmental Baseline
	11:15 - 12:45	Scoping & IECs
	12:45 - 13:15	Break
	13:15 - 14:45	Bounding
	14:45 - 15:00	Break
	15:00 - 16:30	Interdisciplinary Nature of EIA

Contd...

Day	Time	Session
4	08:50 - 10:30	Field Data Planning
	10:30 - 10:45	Break
	10:45 - 12:15	Socio-Economic Baseline
	12:15 - 12:45	Break
	12:45 - 14:15	Water Resource Baseline
	14:15 - 14:30	Break
	14:30 - 16:00	Land-Use Baseline
5	08:50 - 10:30	Forest & Vegetation Baseline
	10:30 - 10:45	Break
	10:45 - 12:15	Wildlife Baseline
	12:15 - 12:45	Break
	12:45 - 14:15	Fisheries Issues
	14:15 - 14:30	Break
	14:30 - 16:00	Fisheries Baseline
6	08:50 - 10:30	Hazard & Risk Baseline
	10:30 - 10:45	Break
	10:45 - 12:15	Data Analysis
	12:15 - 12:45	Break
	12:45 - 14:15	GIS
	14:15 - 14:30	Break
	14:30 - 16:00	GIS
7	08:50 - 10:30	GIS
	10:30 - 10:45	Break
	10:45 - 12:15	GIS Debriefing
	12:15 - 12:35	Break
	12:35 - 14:05	Interviewing Skill Field Briefing
8	08:50 - 17:00	F I E L D - I

Contd...

Day	Time	Session
9	08:50 - 10:30	Field Debriefing
	10:30 - 10:45	Break
	10:45 - 12:45	Field Debriefing Module Synthesis Journal
	12:45 - 13:15	Break
		MODULE 5: Impact Assessment
	13:15 - 14:45	Seasonality Model
	14:45 - 15:00	Break
	15:00 - 16:30	Trend Analysis
10	08:50 - 10:30	Identify & Assess Impacts
	10:30 - 10:45	Break
	10:45 - 12:15	Impact Evaluation
	12:15 - 12:45	Break
	12:45 - 14:15	Impact Evaluation
	14:15 - 14:30	Break
	14:30 - 16:00	Impact Evaluation
11	08:50 - 11:00	Assess Alternatives Module Synthesis Journal Mid-term Evaluation
	11:00 - 11:15	Break
		MODULE 6: Environmental Management Planning (EMP)
	11:15 - 12:45	Introduction to EMP
	12:45 - 13:15	Break
	13:15 - 14:45	Mitigation & Enhancement
	14:45 - 15:00	Break
	15:00 - 16:30	Compensation
12	08:50 - 10:30	Disaster Management
	10:30 - 10:45	Break
	10:45 - 12:15	Monitoring
	12:15 - 12:45	Break
	12:45 - 14:15	Legislation
	14:15 - 14:30	Break
	14:30 - 16:30	Institutional Setting Field Briefing

Contd...

Day	Time	Session
13	08:50 - 17:00	F I E L D - II
14	08:50 - 10:30	Field Debriefing
	10:30 - 10:45	Break
	10:45 - 12:15	Field Debriefing Module Synthesis Journal
	12:15 - 12:45	Break
		MODULE 7: Documentation, Communication & Draft Report
	12:45 - 14:15	Documentation & Communication
	14:15 - 14:30	Break
	14:30 - 16:30	Draft Report Module Synthesis Journal
15		**MODULE 8: EIA Review**
	08:50 - 10:30	EIA Review Mechanism
	10:30 - 10:45	Break
	10:45 - 12:15	Introduction to Document
	12:15 - 12:45	Break
	12:45 - 14:15	Review of Document
	14:15 - 14:30	Break
	14:30 - 16:00	Review of Document
16	08:50 - 10:30	Review of Document
	10:30 - 10:45	Break
	10:45 - 12:15	Review of Document
	12:15 - 12:45	Break
	12:45 - 14:15	Review of Document
	14:15 - 14:30	Break
	14:30 - 16:00	Review of Document

Contd...

Day	Time	Session
17	08:50 - 10:30	Presentation & Discussion
	10:30 - 10:45	Break
	10:45 - 12:45	Presentation & Discussion Module Synthesis Journal
	12:45 - 13:15	Break
	13:15 - 14:45	Workshop Synthesis
	14:45 - 15:00	Break
	15:00 - 16:30	Post Test Evaluation
18	11:30 - 12:30	C L O S I N G
	12:30 - 14:00	Lunch

MODULE 2

TRAINING PROCEDURES

MODULE 2: INTRODUCTION TO EIA

Total Time: **7.5 hours**
(Total: 5 periods)

1. Module Objective

Introduce the module objective: ***to explain the place of EIA in the project development process.*** Flipchart: Module 2 Objective

2. Overview

This module provides information about EIA in the context of the overall project development cycle. It discusses where EIA fits in the process, how the concepts of habitat and ecosystem are used in EIAs, and the overall EIA process. EIA is a tool to do feasibility studies on the environmental effects of proposed projects. It is used not to stop projects but to enhance their success by making them more sustainable. This provides the conceptual framework for EIAs. The sessions will:

- Explain the importance of habitats and ecosystems for sustainable development.
- Explain the importance of EIA in project development.
- Explain the place of EIA in the project development cycle.

The module also provides information about Engineering and Engineering Effects of projects:

- Identify the various types of engineering works currently used in flood control projects in Bangladesh.
- Identify the various positive and negative effects of these projects.
- Explain how engineering projects can benefit from properly conducted EIAs.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.) These are model questions. If necessary, they may be modified to adapt to trainee needs.

GENERALIZATION QUESTIONS

- [Q] What did you learn about project development and EIA from this session?
- [Q] What conclusions might we draw from it about project development and EIA?
- [Q] What important points do you need to remember about EIA and project development?
- [Q] What problems might you find in integrating project development and EIA studies?

APPLICATION QUESTIONS

- Q How will you integrate EIA into the project development cycle?
- Q What would hinder such integration in your organization?
- Q What would help in applying EIA concepts in project development in your organization?
- Q What modifications in the EIA concept would make it work better?

Session 1 Week 1, Day 1, Period 3

Procedure

Trainer note: Distribute the EIA Guidelines, the Annotated Bibliography on the Environment, the POUSH Factsheets, the Glossary, and the article on Environment, Development and EIA in Bangladesh. Explain to the participants that the workshop is based on the EIA process outlined in the Guidelines. Tell them to read the Guidelines as that will help them to understand the EIA process. Tell them that the other handouts are supplemental materials that they should also read. Handouts: FPCO EIA Guidelines; Annotated Bibliography on the Environment; POUSH Factsheets; Environment, Development and EIA in Bangladesh; Glossary (Volume II, Module 2).

1. Introduction

Introduce the session objective: ***to understand the Need of EIA in the Project Cycle.***
Flipchart: Session 1 Objective

Begin the session by asking the participants about their experience with project planning and implementation and guidelines.

Q Who has been involved in project planning?

Q What is the overall process?

Let this lead into a lecturette on need of EIA. Explain the historical perspective of EIA. Discuss that many projects have been abandoned or have had limited success because of (1) public opposition to the project, (2) depletion of resources, (3) damage to resources, and (4) unforseen costs. Given this experience, planners and decision-makers have recognized that environmental consequences have to be taken into account before a project is implemented. Explain how projects have an impact on the environment. Discuss the components of environment and explain how change in one component results in change in other components.

Point out that EIA is a recent phenomena and was developed first in the United States in the 1970s. Introduce the concept of EIA as a tool that does not stop projects, but is needed to minimize the adverse impacts of projects. Discuss the basic concepts of EIA. Introduce the concepts of direct, indirect and cumulative impacts that a project can have.

Definition: ***Environment*** can be defined as all the physical, biological and chemical factors and conditions that influence the existence and development of an organism or organisms.

Definition: ***Environmental Impact Assessment (EIA)*** is a mechanism which identifies, predicts, and evaluates the potential environmental impacts of projects, finds alternatives or mitigatory measures to reduce unacceptable impacts, and presents these predictions and options to decisions-makers.

- [Q] What do we mean when we talk about the environment?
- [Q] What do we mean by impacts?
- [Q] How can projects have impacts on the environment?
- [Q] Can the environment have impacts on the projects?

3. Group Discussion

Begin a group discussion about how projects might benefit if an EIA is done. Ask the trainees to provide input on where they have had experience in the project cycle and how they think an EIA might have strengthened or weakened the planning process.

- [Q] Is EIA meant to help or hurt projects?
- [Q] How many projects have you seen that were completely successful in Bangladesh?
- [Q] What were the problems?

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- [Q] How can change in one environmental component result in changes in another? Give examples?
- [Q] Why is EIA an important component in project development?
- [Q] What do you mean by impacts?

APPLICATION QUESTIONS

- [Q] How can you integrate the EIA into your own ministry's or organizations's work?
- [Q] What conclusions can be drawn about the importance and need of EIAs?
- [Q] How can we use EIAs to strengthen our projects?
- [Q] What might be some of the obstacles that would block an EIA from being done successfully?
- [Q] How might those obstacles be overcome?

5. Conclusion

Review the material covered in the session, relating it back to the objective and forward to the next session.

Session 2 Week 1, Day 1, Period 4

Procedure

1. Introduction

Introduce the session objective: ***to understand the concepts of habitat and ecosystem and to appreciate their importance in the EIA process.*** Flipchart: Session 2 Objective

Explain that habitat and ecosystem are two important concepts we will deal with when we work in EIA studies. Explain that we will spend the next session discussing them.

2. Lecturette

Begin with a lecturette on what habitats and ecosystem are. Clarify ecosystem and attribute.

The trainee should learn that habitats are the places where organisms live (e.g., fresh water).
The trainee should also learn that ecosystems are the assemblage of plants, animals, and man with functional interlinkages of the biophysical and socioeconomic sectors. The trainee should understand that an ecosystem includes the biogeochemical cycles and trophic web of the living populations.
Discuss some typical habitats and ecosystems in Bangladesh. Point out some of the endangered flora and fauna in Bangladesh. Then lead into a discussion on sustainable development.
Point out that projects often cause loss of habitat and ecosystem. Explain that while development is necessary, it should be sustainable. Handout: Habitat and Ecosystem (Volume II, Module 2).

(Trainer Note: Write the title of the handout on the board).

Q What is habitat?

Q What is an ecosystem?

Definition: *Habitat* is the natural home or the dwelling place of a living organism and includes all features of the environment where that organism lives.

Definition: An *ecosystem* is an organizational unit which includes a community of living organisms and non-living substances of the environment interacting to produce an exchange of materials between living and non-living parts.

Definition: "*Sustainable development* is development that meets the need of the present, without compromising the ability of future generation to meet their own needs."

Discuss the schematic diagram in the handout with the trainees and indicate the components of an ecosystem. Handout: Ecosystem Drawing

Components: a) Biophysical — abiotic (land, water, air) and biotic (plants and animals)
b) Socioeconomic — human component (social, economic, administrative, cultural, historic, archaeological, land use, infrastructure, nutrition, safety).

Q How may development programs cause loss of ecosystems?

Q What are some ways through which you can conserve the ecosystem?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The task is to identify three ecosystems in Bangladesh and to list their characteristics.

(Trainer Note: Use the following methodology for all small group tasks.)

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

Q Why is it important to be able to distinguish between habitat types?

Q What are some of the important habitats in Bangladesh?

APPLICATION QUESTIONS

Q How can you use your ability to identify habitats in the EIA process?

Q How will you integrate your new knowledge into the EIA work you do?

5. Conclusion

Link task and lecturette back to the objective and connect them to the next session.
As this is only the first part of the module, tell the trainees that in the next session we will return to it. Ask them what they think about the way the workshop is proceeding and whether it is meeting their expectations.

Session 3 Week 1, Day 2, Period 1

Procedure

1. Introduction

Introduce the session objective: ***to know where in project development should EIA be done and why***
Flipchart: Session 3 Objective

2. Lecturette

Explain the concept of project development covering the various stages including project identification, pre-feasibility and feasibility study of the project. Discuss why EIA needs to be done at the feasibility stage of project development. Emphasize that the EIA team would do its work concurrently and in consultation with the team performing the engineering feasibility study. Also discuss the amount of time that might be required for doing EIAs of different kinds of projects.

Discuss how environmental aspects of a proposed project are addressed prior to the feasibility stage through preliminary environmental review (PER) and Initial Environmental Examination (IEE). Also explain the role of Environmental Management Plan (EMP) in addressing environmental issues beyond the feasibility level. Also talk about the Guidelines that are available in the water resource sector. Flipcharts: (1) Stages of Project Development, (2) Environmental Aspects prior to Feasibility stage, (3) Whether All Projects need to go through EIA, (4) Role of EMP.

Q Where should EIA occur in the project cycle?

Q How long should an EIA take?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of the exercise to learn about the importance of placing EIA at the feasibility stage.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What is the advantage of doing EIA at the feasibility stage?
- Q Why is it that at times after doing an IEE, EIA is not necessary?
- Q What is the role of EMP?

APPLICATION QUESTIONS

- Q How will you use your knowledge of the place of EIA in strengthening EIA?
- Q What are some potential problems with using PER and IEE at your work?
- Q How can you avoid these problems?

4. Conclusion

Summarize the material covered in this session, and link it back to the objective.

Session 4 Week 1, Day 2, Period 2

Climate Setting

Set the climate by asking the participants to recall what they learned yesterday and whether they had questions about things they did not understand, or want to explore.

Procedure

1. Introduction

Introduce the session objective: ***to understand the overall EIA process.*** Flipchart: Session 3 Objective

Point out that we have been introduced to EIA, and have also identified habitats and ecosystems in Bangladesh.

Q What are some of the habitats that can be affected by FCD/I projects?

Q What are impacts?

2. Lecturette

Present a lecturette on the "ten plus one step" in the EIA process. Help the trainees to recall what EIA means and refer them to the definition in the EIA Guidelines. The trainee should understand the meanings of "environment," "impact," and "assessment." Introduce the procedural steps of the EIA process **(Figure 2, page 18 of the Guidelines).** Discuss the steps, the logical sequence in which they follow, and explain why people's participation is separate and not numbered. The trainees should learn a little about what each step entails. Explain that the steps are not necessarily sequential in order, one following the other. They may loop back into the other, or combine into one, or build upon the other. Overhead: EIA Process.

Q Would someone care to comment on the "ten plus one step?"

Definition: *Environmental impact* is quantitative and/or qualitative change to environmental resources.

Lead-in question for small group exercise:

Q Given what we have learned about the overall EIA process, in what way may an EIA study help in project development?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of the exercise is to list five important advantages of using the "ten plus one steps" when conducting EIA for a particular project in the water sector.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

5. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What do you think is one of the most important step in the overall EIA process?
- Q In what way do the steps relate to each other?

APPLICATION QUESTIONS

- Q How will you explain the EIA process to your colleagues who have not attended the training?
- Q How will you apply your knowledge of the overall EIA process in your workplace?
- Q If EIA is adopted in your organization, what will make it easier to incorporate the different steps into the project development?

6. Conclusion

Review the material covered in the session, relating it back to the objective and link it forward to the next session.

Session 5 Week 1, Day 2, Period 3

Procedure

1. Introduction

Introduce the session objective: ***to understand the environmental effects of water control structures.***
Flipchart: Session 5 Objective

2. Lecturette

Present a lecturette on the various environmental effects caused by water management projects. Show slides of different water control structures and explain their impact on the ecosystem. Discuss the positive impacts and the negative impacts. The trainees should understand that projects such as embankments, sluice gates etc., help to manage floods, and increase agricultural production and improvement in quality of life. However, they also cause loss of fisheries, waterlogging, and drainage congestion with their associated problems.

Lead the participants into a discussion on water management. The participants should be encouraged to share their experiences with the success and failure of engineering projects.

(Trainer Note: Need to have slide projector and screen.)

3. Group Discussion

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- [Q] What are some of the major positive and negative effects of water control structures?
- [Q] How can an EIA help to mitigate negative effects?
- [Q] When should an EIA team begin thinking about these environmental effects?

APPLICATION QUESTIONS

- [Q] How can your knowledge of these environmental effects be used when you return to work?
- [Q] How will you make people at work more aware of these effects?

5. Conclusion

Link the session back to the objective and forward to the next session.

6. Module Synthesis

Summarize what has been learned during the module and review the module objectives. Useful questions might include:

- Q As a result of what you have learned, what might you do differently once you get back to work?
- Q How difficult will it be to do that?
- Q What might you do to overcome the difficulty?

Distribute Handout E: Journal. Explain that the journal will help them remember some critical aspects of what they have learned. At the end of each module, they will record what they have learned so as to not forget it. They will also use the journal to write down some ways of applying what has been learned in the workshop. **Give them 10 minutes to fill out this first journal.**

MATERIALS

Flipchart: Module 2 Objective
Flipchart: Session 1 Objective
Flipchart: Session 2 Objective
Flipchart: Small Group Task
Flipchart: Session 3 Objective
Flipchart: Small Group Task
Flipchart: Session 4 Objective
Flipchart: Small Group Task
Flipchart: Session 5 Objective
Flipchart: Session 6 Objectives
Flipchart: Small Group Task

Overhead: Ecosystem Drawing
Overhead: The FAP 16 EIA Process

Handout: FPCO EIA Guidelines (Volume II, Module 2)
Handout: Annotated Bibliography on the Environment (Volume II, Module 2)
Handout: Factsheets POUSH (Volume II, Module 2)
Handout: Environment, Development and EIA in Bangladesh (Volume II, Module 2)
Handout: Habitat and Ecosystem (Volume II, Module 2)
Handout: Glossary (Volume II, Module 2)
Handout: Journal

MODULE 2

EXERCISES AND HANDOUTS

The materials on the following pages are intended for duplication and distribution to skills workshop participants. Each numbered exercise corresponds to a number that appears following the description of the exercise in the Training Procedures section. Supplemental handouts for the module are located in Volume II of the Trainer's Manual.

Exercise 1

Using your knowledge of Bangladesh, identify three different ecosystems of Bangladesh. List the characteristics of each of the ecosystems that you identify.

The following format may be used in preparing the flip chart.

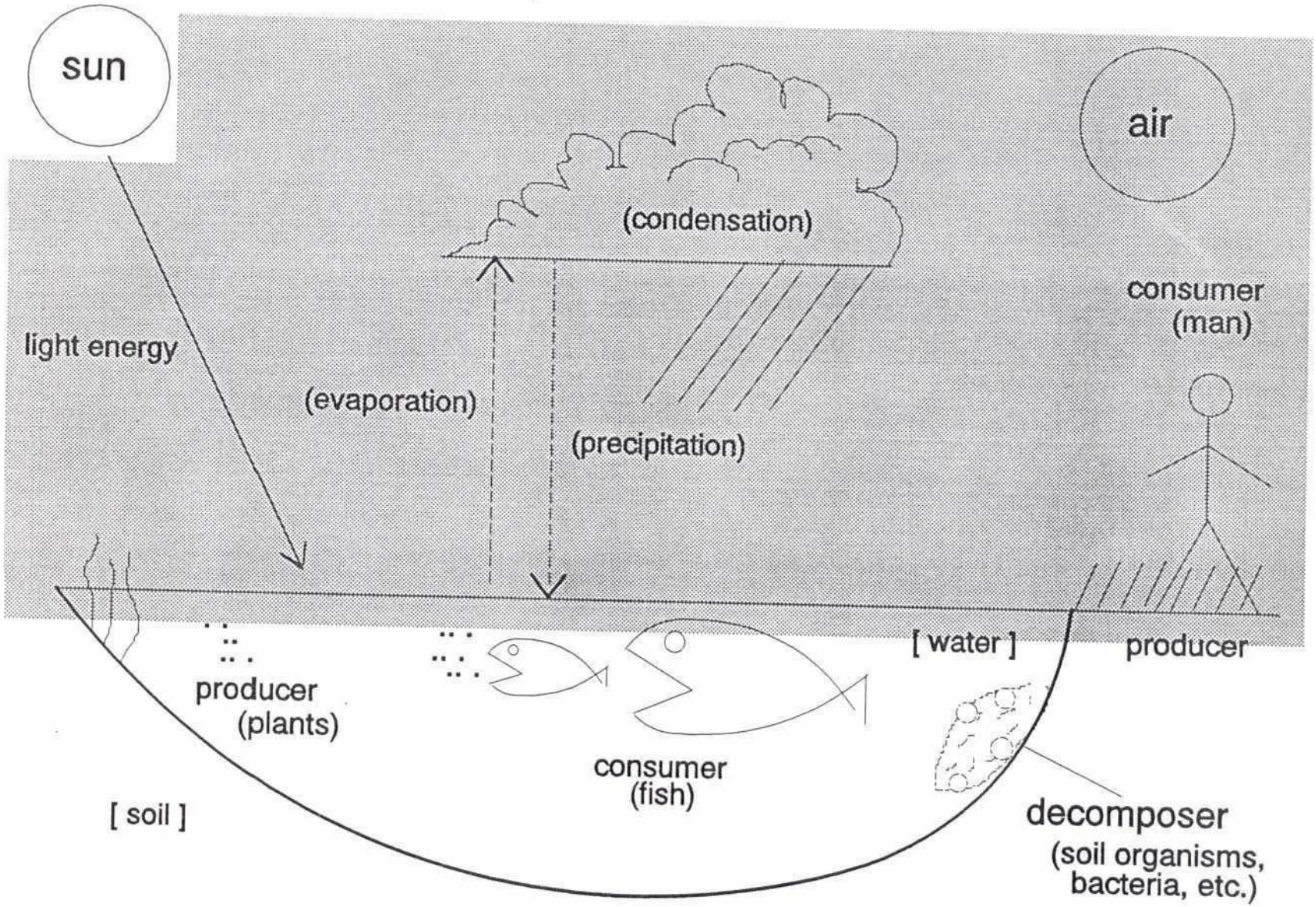
Ecosystem	Characteristics

Exercise 2

From your knowledge of project development, list the major advantages of placing EIA at the feasibility stage.

Exercise 3

List 5 of the most important advantages of using the "ten plus one steps" when conducting an EIA for a particular project in the water sector.



Ecosystem (Assemblage of Plants, Animals and Man)

Journal 1: Introduction to EIA in Water Sector

1. How would I define EIA?

2. Where would I place EIA in the project development process and why?

3. How does EIA improve project planning and outcomes?

4. Why are habitats and ecosystems important for EIA?

MODULE 3

TRAINING PROCEDURES

MODULE 3: PEOPLE'S PARTICIPATION

Total Time: **3 hours**
(2 sessions)

Climate Setting

Ask the participants to comment on the things that they learned in the past two modules. Ask if they have any questions about the materials, the approach, etc.

Explain that the group has looked at the issues involved in project development, and now they will focus more sharply on involving the public or the community in the EIA process.

1. Module Objective

Introduce the module objective: **to understand the importance and methodology of people's participation in the overall EIA Process**. Flipchart: Module 3 Objective

2. Overview

The module is designed to help participants understand why people's participation is an important component to the EIA. The sessions will help the participant to:

- understand the importance of people's participation in the overall EIA process and indicate where and when it should occur.
- learn about the methodology of incorporating people's participation in EIA.
- learn about how to ensure people's participation in EIA.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding session).

GENERALIZATION QUESTIONS

- [Q] What did you learn about people's participation (PP) from this experience?
- [Q] What does using PP mean to you?
- [Q] What conclusions might we draw about PP?
- [Q] What are the most important things you have drawn from the module on PP?
- [Q] What do these important things suggest to you in general?
- [Q] What blocks have we identified to using PP to do a good EIA?

- [Q] How can you overcome the blocks?
- [Q] What strategy did others use?
- [Q] What strategy would you use?
- [Q] What problems might you find in trying to develop or implement a PP program?

APPLICATION QUESTIONS

- [Q] How would you apply that to PP situations?
- [Q] What would hinder the application of PP in the EIA?
- [Q] What would help the application of PP?
- [Q] What modifications would make PP work for you as part of the EIA?
- [Q] What are the options open to you?

Session 1 Week 1, Day 2, Period 4

Procedure

1. Introduction

Introduce the session objectives: ***to understand the importance of people's participation in the overall EIA process and indicate where it should occur.*** Flipchart: Session 1 Objectives

Point out that we have been introduced to people's participation as an integral part of the overall EIA and that it is used to identify issues, acquire data, and to ensure the appropriateness of project interventions.

2. Lecturette

Present a lecturette discussing why people's participation is important, why different groups of people need to be identified and involved in the EIA process. Explain that people's participation involves a *bottom up planning process.* People's participation enhances the sustainability of projects by allowing people to share responsibility for key decisions in project planning, and by allowing them to identify their own problems and to find the solutions to them. Discuss what problems may occur if people's participation is not built into the project design. Comment on peoples' stake and responsibility in projects. Point out when and where in project design and implementation people's participation should occur.

- Q Who are *people?*
- Q What is people's participation?
- Q Why is it important to identify different groups of people?
- Q Where in project development should people's participation occur?

Definition: *people* is a group of persons who represent different socio-economic interest groups, elected representatives, government officials, professional groups, voluntary groups including NGOs, and others.

Definition: *people's participation* means the active involvement of the local people and interested parties in every stage of the project development. It involves a **'bottom-up'** planning process in which local people are fully involved in shaping their own future.

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of the exercise is to identify the benefits of people's participation at different stages of the EIA process.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

Q Why is people's participation so important?

Q Why is it important to identify different groups of people when doing an EIA?

APPLICATION QUESTIONS

Q How will you use your new knowledge about the importance of people's participation in project planning?

5. Conclusion

Link the exercise to the lecturette and the objectives. Link this session to the next one.

Session 2 Week 1, Day 3, Period 1

Procedure

1. Introduction

Introduce the session objective: ***to learn about the methodology of incorporating people's participation in EIA*** Flipchart : Session 2 Objective

Q Has anyone had any experience in ensuring people's participation in a project?

2. Lecturette

Begin by discussing what needs to be ensured through people's participation. Next move on to the different steps involved in people's participation. Emphasize the need to identify the issues important in people's participation. Discuss the necessity of identifying various socio-economic groups who can provide insights into the desirability of the proposed project in the given geographical area.

Explain the role of village scoping sessions. Cover such methods as Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA) in eliciting relevant rural information from various socio-economic groups. Also, discuss the role of public hearing. Point out the role of Consultative Groups and Project Coordination Committee in providing feedbacks through people's participation. Flip Charts: (1) What people's participation needs to ensure; (2) Steps in people's participation; (3) Methods used to ensure people's participation; (4) Consultation sessions; (5) Feedback through committees.
Handout: FPCO Guidelines for People's Participation (Volume II, Module 3).

Q What role can village scoping sessions play in people's participation?

Q What is RRA?

Q What is PRA?

3. Small Group Exercise

Introduce the objectives of the small group task: Flipchart :Small Group Task

The purpose of the exercise is to understand the methodology of incorporating people's participation in EIA.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What does one need to ensure through people's participation?
- Q What are the advantages of RRA and PRA in obtaining information through participation of local people?
- Q Why does one need to involve people from different socio-economic groups?

APPLICATION QUESTIONS

- Q How will you use your knowledge of people's participation in EIA?
- Q What are some of the problems which might emerge while ensuring people's participation?
- Q How would you solve these problems?

5. Conclusion

Summarize what has been learned during the session, relate it back to the objective and link it to the next session.

6. Module Synthesis

Ask the participants what they think of the workshop. Do they think they are learning something? Ask them to comment on the things that they learned in the past two days. Ask if they have any questions about the materials, the approach, etc.

Re-emphasize the need of people's participation in achieving success of any development project. Help participants to recall the pervasiveness of people's participation in the EIA process. Stress the need of adopting proper methodologies in ensuring people's participation. Summarize what has been learned during the module and review the module objectives.

Distribute Handout: FPCO Guidelines for People's Participation (Volume II, Module 3). Distribute Handout: Journal. Explain that the journal is part of the back-at-work planning at the end of the workshop. Give them 10 minutes to fill out this journal.

MATERIALS

Flipchart: Module 3 Objective
Flipchart: Session 1 Objectives
Flipchart: Small Group Task
Flipchart: Session 2 Objective
Flipchart: What People's Participation needs to ensure
Flipchart: Steps in People's Participation
Flipchart: Methods of People's Participation
Flipchart: Consultation Sessions
Flipchart: Feedback through Committees
Flipchart: Small Group Task

Handout: FPCO Guidelines for People's Participation (Volume II, Module 3)
Handout: Journal

MODULE 3

EXERCISES AND HANDOUTS

The materials on the following pages are intended for duplication and distribution to skills workshop participants. Each numbered exercise corresponds to a number that appears following the description of the exercise in the Training Procedures section. Supplemental handouts for the module are located in Volume II of the Trainer's Manual.

Exercise 4

Identify the benefits of people's participation at different stages of the EIA process. The following format may be used:

EIA Process and People's Participation

Stages in the EIA Process	Benefits of People's Participation
Project description and design	
Environmental baseline description	
Scoping	
Bounding	
Major field Investigations	
Assess impacts	
Quantify and value impacts	
Environmental management planning	
Feedback	
EIA reporting	

Exercise 5

Suppose you are to design a People's Participation Program as part of an EIA dealing with a proposed Flood Control Drainage and Irrigation (FCD/I) Project. One specific purpose of the People's Participation Program that you have been asked to design is to find out:

> The local perceived need of sluice gates within the FCD/I project and the preferred location of such sluice gates.

The area concerned has large farming as well as fishing communities. Besides, a sizable number of households are traditionally engaged in the production of earthen pottery, the marketing of which is heavily dependent on navigation through canals.

Given the above background, list on flip charts:

- The issues which are important and need to be discussed through people's participation.
- The methods through which people's participation can be ensured in addressing the issue.

Journal 2: People's Participation

1. Why is people's participation an important part of EIA?

2. Why is identifying socio-economic groups important in ensuring people's participation?

3. What methods can be used to incorporate people's participation in EIA?

MODULE 4

TRAINING PROCEDURES

MODULE 4: DEVELOPMENT OF ENVIRONMENTAL BASELINE

Total Time: **30 hours**
(20 Sessions)

1. Module Objective

Introduce the module objective: ***to understand the methods of developing environmental baseline.***
Flipchart: Module 5 Objective

2. Overview

This module provides information on the overall methods of environmental baseline development for EIA. It explains the process of identifying IECs in order to develop the boundaries and scope of an EIA study area, includes a discussion on the interdisciplinary nature of EIA, and describes the strategies and plan to obtain the necessary data under different resource components. The sessions will help the trainees to:

- define a baseline for an environmental impact analysis
- define scoping and bounding in the context of EIA
- distinguish between scoping and bounding and understand their inter-relationship and their importance in the EIA process
- select important environmental components (IECs) and issues which need to be addressed in EIA
- explain the importance of correlating interdisciplinary data
- develop the plans necessary to perform all fieldwork
- select the appropriate techniques given knowledge of field conditions and data needs
- explain how socio-economic surveys are conducted, and distinguish between RRA, PRA, and HHS.
- explain survey methods for water resources, land resources biological resources and human resources and explain their uses.

Geographic Information Systems:

- understand the importance of GIS to the EIA process
- understand how different types of information (i.e., fisheries and agriculture) can be integrated to develop digital maps that can be used as outputs in an EIA.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q What did you learn from this module?
- Q What conclusions about EIA study methods might be drawn from this session?
- Q What are the most important things you have drawn from this session?
- Q What does it suggest to you in general about how you can gather data for an EIA?
- Q What strategies has FAP 16 used that were effective in overcoming problems?
- Q What problems might you find?

APPLICATION QUESTIONS

- Q How would you apply your knowledge to performing an EIA study?
- Q What would hinder the application of this information?
- Q What would help the application of this concept?
- Q What modifications would make it work for you?
- Q What would you like to do with this information in your work site?
- Q What are the options open to you?

Session 1 Week 1, Day 3, Period 2

Procedure

1. Introduction

Introduce the session objectives: ***To understand the meaning and importance of scoping to identify the Important Environmental Components (IECs) in the EIA process.*** Flipchart: Session 1 Objectives

2. Lecturette

Use a lecturette to provide information on the procedures of scoping in selecting IECs for conducting EIA in water sector projects. Explain the meaning of scoping, and point out that it is an essential step in conducting an EIA study. Define IECs. Talk about the importance of scoping and selecting IECs, and explain that the scoping process involves (1) the integration of available knowledge of the specific geographical area in which the project is being implemented, (2) integration of information gained from experts on the subject, (3) use of conceptual models, and (4) the establishment of priorities for refining IECs. The participants should understand that scoping involves secondary data, resource expertise, and information on issues obtained from people's participation. Ask participants if they know how to scope projects.

Q How do you scope projects?

Q What kinds of criteria would you use to scope projects?

Explain the process of identifying and refining IECs. This will include a discussion of the procedure of identifying IECs and its purpose.

Q What is the definition of IEC?

Q What are some examples of IECs?

Q How do issues and IECs relate?

Definitions: *Scoping* is a process by which the Important Environmental Components (IECs) and significant issues are identified for detailed investigation in an EIA exercise.

Definition: *IECs* are components that, by virtue of their importance to ecosystem functioning, production of food and/or maintenance of livelihoods and quality of life, are considered essential and worthy of sustaining at existing or enhanced levels under the proposed new project regime. It should be kept in mind that whether a component is important in the context of a proposed project also depends on how liable the component is to be affected by the project(s) in question.

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to develop skill in identifying IECs from secondary source information. The teams will be given a description of a project area and they have identify the IECs.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

- [Q] What IECs were identified?
- [Q] Were there any gaps in the data?
- [Q] What would make the process stronger?

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- [Q] How do you use IECs in the scoping process?
- [Q] Why are all IECs not equally important?
- [Q] What are some good sources for identifying IECs?
- [Q] Why is it important to refine IECs?
- [Q] How do we go about refining IECs?
- [Q] When in the process do we refine IECs?

APPLICATION QUESTIONS

- [Q] What sources will you use to identify IECs for your EIAs?
- [Q] How will you integrate IECs into your EIA process?
- [Q] How will you refine IECs in your particular content area?

4. Conclusion

Refer to their conclusions and things learned and ask what they now might do differently and what they might want to emphasize when they return to their work situations?

Session 2 Week 1, Day 3, Period 3

Procedure

1. Introduction

Introduce the session objective: ***to understand how to make spatial and temporal boundaries of the EIA study area.*** Flipchart: Session 2 Objective

2. Lecturette

Use a lecturette to explain that bounding means defining the limits of the study in terms of area and time. Distinguish between ***spatial boundaries*** such as watershed boundaries, ecological boundaries, and administrative boundaries; and ***temporal boundaries*** such as short-term and long-term boundaries. Point out that bounding focuses not only on the project area identified in the engineering feasibility study, but also on contingent areas expected to be directly or indirectly affected by project interventions. Also highlight the importance of integrating scoping in defining boundaries for EIA.

Point out the importance of bounding in the EIA process. Explain the problems which one may face, if rigorous bounding procedures are not used.

The session will enable trainees to:

- distinguish between scoping and bounding
- understand the inter-relationship between scoping and bounding
- understand the importance of bounding in the EIA process;
- conceptualize the necessity of drawing different types of boundaries in EIA process
- define the boundaries of a study area.

Definition: *Bounding* is the process of determining the spatial and temporal boundaries within which an EIA will be conducted, based on bio-physical, socio-economic, and administrative factors.

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of the exercise is to define the study area boundary on the attached map.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- [Q] Why is it important to determine the boundary of your EIA activities?
- [Q] What are some of the information sources necessary to set your boundaries?
- [Q] Why would people's participation be helpful in setting the boundary?

APPLICATION QUESTIONS

- [Q] How will you integrate PP into setting boundaries?
- [Q] How will you modify your EIA activities if adverse impacts occur beyond the bounded area?

5. Conclusion

Link the exercise to the session objectives and link the session to the next.

Session 3 Week 1, Day 3, Period 4

Procedure

1. Introduction

Introduce the session objective: ***to understand the interdisciplinary nature of EIA in the project planning process.*** Flipchart: Session 1 Objective

2. Lecturette

Use a lecturette to review the overall EIA planning process and its purpose. The main points to be covered are the interdisciplinary nature of the entire study (which requires a multidisciplinary team), the need to establish baseline environmental conditions, and the need to appropriately staff the study team.

Explain that no single discipline can deal with all aspects of an environmental study. Each EIA team must have requisite array of expertise headed by a team leader. The team leader should be a senior expert with skill in management and skill in analysis of environmental impacts. Explain that each specialist should contribute in the description of the project and the environment in and to some extent outside of the project area in their respective fields.

Point out which specialists are required under the following resource components for an EIA in water sector.

Water Resources
Land Resources
Biological Resources
Human Resources

In addition to the technical experts on the team, there should be adequate support in the form of drivers, office staff, draftsmen, technicians, System analyst, computer operators, enumerators, and investigators. The services of a reliable water quality soil analysis laboratory would also be required.

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to assemble an interdisciplinary team for EIA in a typical water sector project.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What kinds of specialists are necessary to staff an EIA team?
- Q Why is it necessary to have more than one kind of expert on the team?
- Q Will you need all the different kinds of experts all the time for the EIA?

APPLICATION QUESTIONS

- Q How will you determine what kinds of experts you will need for your EIA teams?
- Q How will you integrate junior staff into your EIA team?

5. Conclusion

Link the session to the objectives and to the next session.

Session 4 Week 1, Day 4, Period 1

Procedure

1. Introduction

Introduce the session objective: ***to develop a study plan for collecting data/information necessary for baseline development in EIA.*** Flipchart: Session 4 Objective

2. Lecturette

Use a lecturette to focus on the steps involved in data collection for EIA. Explain that plans have different levels and involve the use of both secondary and primary data sources. They include general and specific study plans, explanation of what kinds of data is needed, why the data is being collected, and how often and what kinds of visits to the field are needed. Discuss that the plan should also include details of how data will be obtained on different IECs.

Q How is secondary data obtained?

Q What kinds of data sources are there?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

Based on the text provided develop a time line work plan to collect primary data for environmental baseline description.

Q How easy or difficult was the process of data collection?

Q What could have made the process easier?

Q What do you think was accomplished in the exercise?

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What are some of the problems with secondary data sources?
- Q What are some problems with primary data sources?
- Q What kinds of problems can we anticipate during collection of primary data?

APPLICATION QUESTIONS

- Q How will you plan an EIA study if you have limited time?
- Q How can data obtained from secondary sources be used in an developing a study plan?

5. Conclusion

Link the session to the objectives and to the next session.

Session 5 Week 1, Day 4, Period 2

Procedure

1. Introduction:

Introduce the session objectives: ***to understand the need and procedure of preparing a socio-economic baseline for EIA***. Flipchart: Session Objective

2. Lecturette:

Explain why it is necessary to create a socio-economic baseline for EIA. Discuss how this baseline, on the one hand, provides information on the nature of dependence of local people on various resources and also helps in understanding the potential for better utilization of resources. Introduce the various steps in creating a socio-economic baseline, starting from the collection of secondary material to the generation of primary data from the field. Discuss the importance of generating quantitative as well as qualitative information. Point out the role of RRA, PRA, and HHS. Flipcharts: (1) Need for socio-economic baseline; (2) Steps in creating a socio-economic baseline;(3) Rapid Rural Appraisal (RRA); (3) Participatory Rural Appraisal (PRA); (4) Household Survey. Handout: Human Resource Data Sources.(Volume II, Module 4).

(Trainer Note: Write the handout title on the board).

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to understand the use of RRA and household survey in creating a socio-economic baseline for EIA.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q Why is it important to create a socio-economic baseline for EIA?
- Q What is the advantage of knowing about socio-economic stratification of an area in performing EIA of a proposed project?
- Q When is it appropriate to do PRA, RRA, and HHS in creating the socio-economic baseline?

APPLICATION QUESTIONS

- Q How would you use your knowledge of socio-economic baseline for EIA at your workplace?
- Q What problems do you anticipate in creating a socio-economic baseline?
- Q What are some of the solutions to the problems you raise?

5. Conclusion

Summarize the need for developing a socio-economic baseline for EIA and link it to the previous and the following sessions.

Session 6 Week 1, Day 4, Period 3

Procedure

1. Introduction:

Introduce the session objectives: ***to understand the need and methodology of preparing a water resource baseline for EIA.*** Flipchart: Session Objective

2. Lecturette:

Explain why it is necessary to create a water resource baseline for EIA. Point out its importance and discuss the steps needed to create a water resource baseline, starting from preparation of a base map for the area. Explain that the base map includes the existing infrastructures, water bodies, rainfall and water level data. Discuss the secondary and primary data sources and lists institutions which can provide the information. Explain that secondary and primary data sources that enables the EIA team to collect information about land types and the hydrological regime of the area need to be quantified where possible. This will help in correlating the information with the land type and water level data, which in turn, will help the EIA water resource engineer to predict the potential impacts of a proposed project. Handout: Water Resource Data Sources (Volume II, Module 4).

(Trainer Note: Write the handout title on the board).

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to list the sources of water resource data and to understand their use in baseline development in water resources.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q Why is it important to create a water resources baseline for EIA?
- Q What is the advantage of knowing about different water resources infrastructures of an area in performing EIA of a proposed project?
- Q Why is a base map important in creating the water resources baseline.

APPLICATION QUESTIONS

- Q How would you use your knowledge of water resource baseline for EIA at your workplace?
- Q What problems do you anticipate when creating a water resources baseline?
- Q What are some of the solutions to these problems?

5. Conclusion

Summarize the need for developing water resource baseline and link it to the previous and the following sessions.

Session 7 Week 1, Day 4, Period 4

Procedure

1. Introduction:

Introduce the session objectives: ***to understand the need and methodology of preparing a land use baseline for EIA.*** Flipchart: Session Objective

2. Lecturette:

Discuss the need for creating a land use baseline for EIA. Point out its importance and explain the steps involved in creating a baseline starting from the preparation of a land use map. The map should include the cropping pattern boundaries, settlements, natural woodland and scrub, plantation forests, perennial water bodies, urban areas and other infrastructures. Discuss the methods used to develop the land use map. Explain how aerial photographs are used to identify the physiographic units of the project area and how field investigation provides information about cropping patterns, settlements, woodland and scrub along traverse lines in the project area. Also explain how the data provides information for each mapping unit of the land use map. Point out how the land use map enables the EIA team to understand the relationship between land types and cropping pattern, and helps to predict future cropping pattern and agricultural production under project condition. Handout: Land Resource Data Sources, Volume II, Module 4).

(Trainer Note: Write the handout Title on the board).

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of the exercise is to prepare a data base for different land use features, and to determine the cropping intensity of the agricultural land.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q Why is it important to create a land use baseline for EIA?
- Q What is the advantage of knowing different land use features in the project area in performing EIA?
- Q What are the methods used to develop land use maps?

APPLICATION QUESTIONS

- Q How does the knowledge of land type help in predicting the cropping pattern in post project situation?
- Q What problems do you anticipate in creating a land use survey map? How will you overcome them?
- Q How will baseline information about cropping patterns help you in reviewing an EIA document?

5. Conclusion

Review the points covered in the session and link them to the following session.

6. Weekly Synthesis

The final part of the last session should synthesize the material to which the trainees have been exposed. Start by asking if anyone has any questions about what has been covered. Explain that we will talk about the things they have learned so far and how we might apply them. The session should focus in generalizing and applying what they have learned to date. Start with a question and answer period that takes them through the course material for the week. This should reach a point where the trainer can clarify ideas, pull things together, and forecast the next week's activities.

Session 8 Week 1, Day 5, Period 1

Procedure

1. Introduction

Introduce the session objectives: ***To understand the need and methodology for baseline development on forests and vegetation.*** Flipchart: Session objective.

2. Lecturette

Use a lecturette to explain the need of collecting baseline information about forests and vegetation in the proposed project area. Point out the different criteria used for selecting the areas. Discuss the different types of forests and vegetation ecosystems and explain the methodologies of collecting baseline data for each type. Point out the limitations of these methodologies.

- Q What do we mean by forest and vegetation baseline development?
- Q What do we mean by vegetation?
- Q What are some methods for collecting forest and vegetation data?

Definition: *Forest* may be defined as a large area of land covered by trees and underbush.

Definition: *Vegetation* means all the plants of an area or region.

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to understand the methodology for different types of forests and vegetation.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q Why is it important to identify the different parameters when developing a forest and vegetation baseline?
- Q What are some methods for collecting baseline data for forests and vegetation?
- Q What are the limitations of the methods?

APPLICATION QUESTIONS

- Q How can you use your knowledge of baseline development on forest and vegetation when you review an EIA document?
- Q How will you integrate this knowledge into the EIA process?

4. Conclusion

Link the objectives of the session to the next session.

Session 9 Week 1, Day 5, Period 2

Procedure

1. Introduction

Introduce the session objectives: ***To understand the need and methodology for baseline development on wildlife.*** Flipchart: Session objective.

2. Lecturette

Use a lecturette to explain the need and importance of developing baseline information about wildlife in the proposed project area. Talk about the different animal species included in wildlife. Discuss endangered species, species diversity, population status, habitats (types and areas), and animal behavior. Point out the different methods used to develop wildlife baseline. Talk about the different methods used to develop baseline on wildlife. Discuss quadrants, transverse methods, scanning methods, spot survey, RRA, and direct counting methods. Explain how aerial photographs also help in the development of wildlife baseline. Explain that baseline study should concentrate on species found to have some special local, national, or international importance.

- [Q] What do we mean by wildlife?
- [Q] Why should we develop a wildlife baseline for EIA?
- [Q] How can we collect information about the wildlife in the project area?

Definition: *Wildlife* include animal species that can survive without any artificial help. Four general classifications are mammals, amphibians, reptiles, and birds.

Lead into a discussion by asking the following questions:

- [Q] What methods would you use to estimate the crocodile population in the Sundarbans?
- [Q] Why should we be concerned if a particular species of bird or animal becomes extinct because of project intervention?

3. Group Discussion

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q What do we mean by endangered species?
- Q What animals or birds are endangered in Bangladesh?
- Q What measures can we adopt to prevent extinction od different species of birds and animals?

APPLICATION QUESTIONS

- Q How can you use your knowledge of baseline development on wildlife for EIA?
- Q What are some important methods used for wildlife baseline development? process?

4. Conclusion

Link the objectives of the session to the next session.

Session 10 Week 1, Day 5, Period 3

Procedure

1. Introduction

Introduce the session objective: ***to understand the important issues related to capture and culture fisheries.*** Flipchart: Session 10 Objective

2. Lecturette

Use a lecturette to define culture and capture fisheries, and explain the differences between them. The lecturette should also focus on the different types of fish habitats, species diversity and the sensitivity of different species to the annual hydrologic cycle in the floodplain ecosystem of Bangladesh. Point out how projects hamper fish migration and affect the fish habitats. Introduce the concept of fish friendly structures. Discuss the components and potential of culture fisheries.

This will be an extended lecture. Involve the participants by asking them to share their experiences of the impacts of projects on culture and capture fisheries.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- [Q] What are the important components of capture fisheries?
- [Q] What are the important components of culture fisheries?
- [Q] What is the basic difference between capture and culture fisheries?

APPLICATION QUESTIONS

- [Q] How will you use your new understanding of fisheries in doing field investigation?
- [Q] Which IECs would be more important for you to cover in the fisheries sector?

4. Conclusion

Link to the previous session and to the next session.

Session 11 Week 1, Day 5, Period 4

Procedure

1. Introduction

Introduce the session objective: ***to understand the need and procedure for developing fisheries baseline.*** Flipchart: Session 11 Objective

2. Lecturette

Present a lecturette on the need and procedure for developing fisheries baseline. Point out that data needs to be generated for wetland habitats, fish production and species diversity, liminological features as they relate to fisheries, fish price and seasonal abundance, fish management practices and maps. Explain the different methodologies used for generating baseline data for these components. Discuss catch assessment survey, liminological survey, fish market survey and mapping. Point out the importance of fisheries baseline for EIA. Handout: Fish Movements in Riverine Floodplain Ecosystems in Bangladesh (Volume II, Module 4).

(Trainer Note: Write the handout title on the board).

Explain the methods of collecting data on the following specific IECs:

Wetlands	types, area, seasonality, limnology, management practice, depth volume relationship, etc.
Capture Fisheries	Production, species diversity, fish migration routes and timing, important and rare species, critical habitats, etc.
Culture Fisheries	number and area of ponds, category of ponds, productivity, species cultured, sources of inputs, management and extension services.

3. Large Group Task

Introduce the group task Flipchart: Large Group Task

The purpose of the exercise is to develop a list of IECs for a baseline description of capture and culture fisheries in a FCD/I project area.

LARGE GROUP METHODOLOGY

Participants will remain in one group.
Have them appoint a Team Presenter.
Leave 30 minutes for completing the task.
The Presenter will write the points on whiteboard based on the information provided by the team.
The Presenter will explain the task in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What are the most important aspects to be covered in baseline relating to capture fisheries data?
- Q What are the problems associated with fisheries surveys?
- Q What method(s) can we adopt for collecting fisheries data if enough time is not given for field survey?

APPLICATION QUESTIONS

- Q How will you use your knowledge of baseline development of fisheries?
- Q Will you be able to carry out fisheries survey as discussed?

5. Conclusion

Link to the previous session and to the next session.

Session 12

Week 2, Day 6, Period 1

Procedure

1. Introduction:

Introduce the session objectives: ***to be able to identify hazards and their associated risks and develop baseline data*** Flipchart: Session Objective

2. Lecturette:

Use a lecturette to discuss different types of hazards (geophysical hazards; such as flash flood, flood, earthquake, storm surge, cyclones, siltation, erosion, waterlogging, etc., biological hazards; such as malnutrition, disease, man-made hazards such as industrial pollution, pesticide pollution and herbicide pollution). Point out that hazards are the physical events which occur, and that risks are the potential consequences of hazards. Discuss how risks are associated with hazards and point out how risks can be allocated across different resources. Explain the need for developing baseline information on hazards and risks and discuss the methods used for doing so. The methodology involves using secondary data sources, as well as data acquired through field investigations. Explain that information on hazards from study area will be used in the development of a disaster plan as part of the EMP.

- Q What are some hazards in your home?
- Q What are some hazards that affect Bangladesh?
- Q What are the similarities and differences between these hazards?
- Q What is the definition of a risk?

Definition: *Hazard* is a physical event or condition that is harmful to human beings or to an environmental resource.

Definition: *Risk* is the potential consequence of loss or damage to an environmental resource including human beings and their economic conditions.

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of the exercise is to identify the different and associated risks of an FCD\I project in a coastal area in Bangladesh.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q Why is it important to create a baseline on hazard and risk for EIA?
- Q How are hazards and risks related?
- Q Why are all risks not equal?
- Q Are there resources that have common hazards?
- Q How do you know that some risks are more significant?

APPLICATION QUESTIONS

- Q How would you use the information on risk and resource components when doing trend analysis?
- Q How can you use your knowledge of hazards and risks for assessing impacts?

5. Conclusion

Summarize the need for developing hazard and risk baseline and link it to the next session.

Session 13 Week 2, Day 6, Period 2

Procedure

1. Introduction:

Introduce the session objectives: ***to understand the need and procedure of data analysis for EIA.*** Flipchart: Session Objective

2. Lecturette:

First discuss the need of data analysis. Explain the importance of showing cause and effect and relating information from different databases through proper analysis. Next, introduce the steps in data analysis. Discuss the processing of raw data which will enable requisite analysis of the data.

In covering the methods of data analysis, present tabular as well as various statistical methods available. The role of graphical exposition should also be discussed. Flipcharts: Need of Data Analysis, Steps in Data Analysis, Methods of Data Analysis.

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to understand some of the methods of data analysis or EIA.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session).

GENERALIZATION QUESTIONS

Q What is the role of data analysis in EIA?

Q When and why would you use tabular method, statistical methods, or graphical exposition in analyzing the data?

APPLICATION QUESTIONS

Q How would you apply the methods of data analysis for EIA at your work place?

Q Do you anticipate any problems in analyzing the data? How would you solve these problems?

5. Conclusion

Review the points covered and emphasize the need of proper data analysis for each of the sectors covered. Explain that the following four sessions will focus on GIS as a tool in EIA.

Session 14: GIS
(Week 2, Day 6, Period 3)
Session 15: GIS
(Week 2, Day 6, Period 4)
Session 16: GIS
(Week 2, Day 7, Period 1)
Session 17: GIS Debriefing
(Week 2, Day 7, Period 2)

(Trainer Note: Lectures by GIS specialists).

Session 18 Week 2, Day 7, Period 3

Procedure

1. Introduction:

Introduce the session objectives: ***to understand the purpose and procedure of interviewing people for collection of information.*** Flipchart: Session Objective

2. Lecturette:

Begin with a lecturette discussing the purpose of conducting interviews in collecting baseline information. Explain how it contributes to understanding people's concerns. Discuss that it is important to identify key informants whether conducting a group or one-to-one interview. Briefly describe the principles, steps and techniques of conducting interviews. Introduce the need for establishing good rapport with the interviewees, and the importance of maintaining a structure when conducting an interview. Handout: Use of Interviews in Environmental Impact Assessment (Volume II, Module 4).

(Trainer Note: Write the Handout Title on Board).

- Q What is the purpose of interviewing?
- Q Has anyone had interviewing experience?
- Q How can you use interviews to gather data?

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q What is the purpose of an interview?
- Q Why is it important to learn interview techniques?

APPLICATION QUESTIONS

- Q What might happen if the people are not consulted?
- Q Can you give examples?

4 Conclusion

Review the points covered. Link it to the next session by explaining to the participants that they will be going on a field trip and will be talking to the local people in the project area to elicit information about environmental issues and IECs.

Session 19 Week 2, Day 7, Period 3

Procedure

1. Introduction

Introduce the session objectives: ***to provide a field trip briefing.***

(Trainer note: Refer to Field Reports Volume II, Module 6 for information on the field sites).

2. Field Trip Briefing

Q How many of you have ever participated in a field trip?

Q How many have been part of a focus group discussion?

Lead the participants to understand that although the trip will occur outside of the classroom structure, the task they have to complete is structured.

Q What is the purpose of a field trip?

Talk about how the site was chosen, what has happened there in the past, and what they will see.

Give them the field day instructions. Explain the detailed methods of interviewing the local people to get data and information. Go over the instructions and explain your expectations. Tell the trainees that you will not be there for the purpose of answering questions but, rather, to help them in case of need.

Tell them that the session following the field trip will be devoted to a discussing of the field visit and what was discovered. Divide the group into three teams and appoint a Team Leader and a Team recorder for each group. Ask them if they are clear about the task and if they have any questions. Go over the logistical arrangements.

Handout: Field Trip Exercise
Handout: Field Trip Materials

FIELD DAY Week 2, Day 8, Periods 1-4

Total Time: **8-10 hours**

1. Objective

The purpose of the field trip is to identify the environmental impacts on IECs in a project area, and to understand how people's participation could have improved project planning.

Send three teams to three different locations for collecting data and information.

Probable time breakdown:

1. 15 minutes briefing on activities for the day.
2. 90 minutes travel
3. 15 minutes tea
4. 135 minutes
   - acquire familiarity with project area
   - associate project activities with environmental setting
5. 45 minutes lunch
6. 90 minutes return travel

Sessions 20 & 21 Week 2, Day 9, Period 1 & 2

Procedure

1. Introduction

Field Trip Debrief Week 2, Day 9, Period 1 - 2

Introduce the session objectives: ***to have field trip debriefing and to synthesize the contents of Module 4.***

Set the Climate

Set the climate by asking the participants to take a look at their journals and recall what general things were learned prior to the field trip.

Procedure

1. Field Trip Exercise

(Trainer note: Remember to leave at least 30 minutes time for module synthesis at the end of field trip debriefing.)

Explain to the group that you would like them to explore what happened on the field trip and what they learned. Tell them that during the next one and a half hour they will work in teams, interact among themselves and prepare a list of the IECs that they found were affected by the project. They will write these on the flipcharts for presentation. After each team present their findings, the floor will be open for discussion. Use the following questions to initiate the debriefing sessions:

- Q What was our overall purpose?
- Q How did we meet that purpose?
- Q What IECs did we identify?
- Q Was it easy or hard to identify IECs? Why?
- Q What were the important (major) issues?
- Q What were the different habitats you observed?
- Q What other interesting things did you see?
- Q How can you apply this back at your own office?

2. Conclusion:

Link the field trip objectives to the objectives of the module.

3. Module Synthesis

This part of the session should synthesize the material to which the trainees have been exposed under module 4. Start by asking if anyone has any questions about what has been covered. Explain that as part of the process we will talk about the things they have learned so far and how we might apply them. The whole part of the session should focus in generalizing and applying what they have learned to date. Start with a question and answer period that takes them through the course material for the week. This should reach a point where the trainer can clarify ideas, pull things together, and forecast the next week's activities. Distribute journals.

3. Wrap-up

Link the objectives of the module with that of the next module.

MATERIALS

Flipchart : Module 4 Objective
Flipchart : Session 1 Objectives
Flipchart : Session 2 Objective
Flipchart : Small Group Task
Flipchart : Session 3 Objective
Flipchart : Session 4 Objective
Flipchart : Small Group Task
Flipchart : Session 5 Objective
Flipchart : Synthesis

Handout: Water Resource Data Sources (Volume II, Module 4).
Handout: Human Resource Data Sources (Volume II, Module 4)
Handout: Land Resource Data Sources (Volume II, Module 4)
Handout: Fish Movements in Riverine Ecosystems in Bangladesh (Volume II, Module 4)
Handout: Use of Interviews in Environmental Impact Assessment (Volume II, Module 4)
Handout: Field Trip Exercise
Handout: Field Trip Materials

MODULE 4

EXERCISES AND HANDOUTS

The materials on the following pages are intended for duplication and distribution to skills workshop participants. Each numbered exercise corresponds to a number that appears following the description of the exercise in the Training Procedures section. Supplemental handouts for the module are located in Volume II of the Trainer's Manual.

Exercise 6

The objective of the exercise is to identify the important environmental components (IECs) based on the following description of a proposed FCD project.

Project Description

A flood control and drainage project was proposed for an area following a flood event in which several villages were inundated and there were loss of crops and property. The purpose of the proposed project is to reduce or eliminate flooding, improve drainage and thereby improve protection of property, agricultural production, and general public safety.

Assume that the project area covers an area of 8,000 hectares and includes 43 villages. The number of households within the project area is estimated to be 8,500 with a total population of around 52,000. About 60% of the households consist of landless and marginal farmers. There are around 1,200 homestead ponds and three large perennial beels within the project. A river flows across the northern boundary of the project. The beels are connected with the river through two canals. During the monsoon, water from the river enters into the beels through canals and inundates the adjoining crop lands (about 60% of the project area) within the project area for about 4-5 months each year. There is a big market at the bank of the river situated outside of the project area.

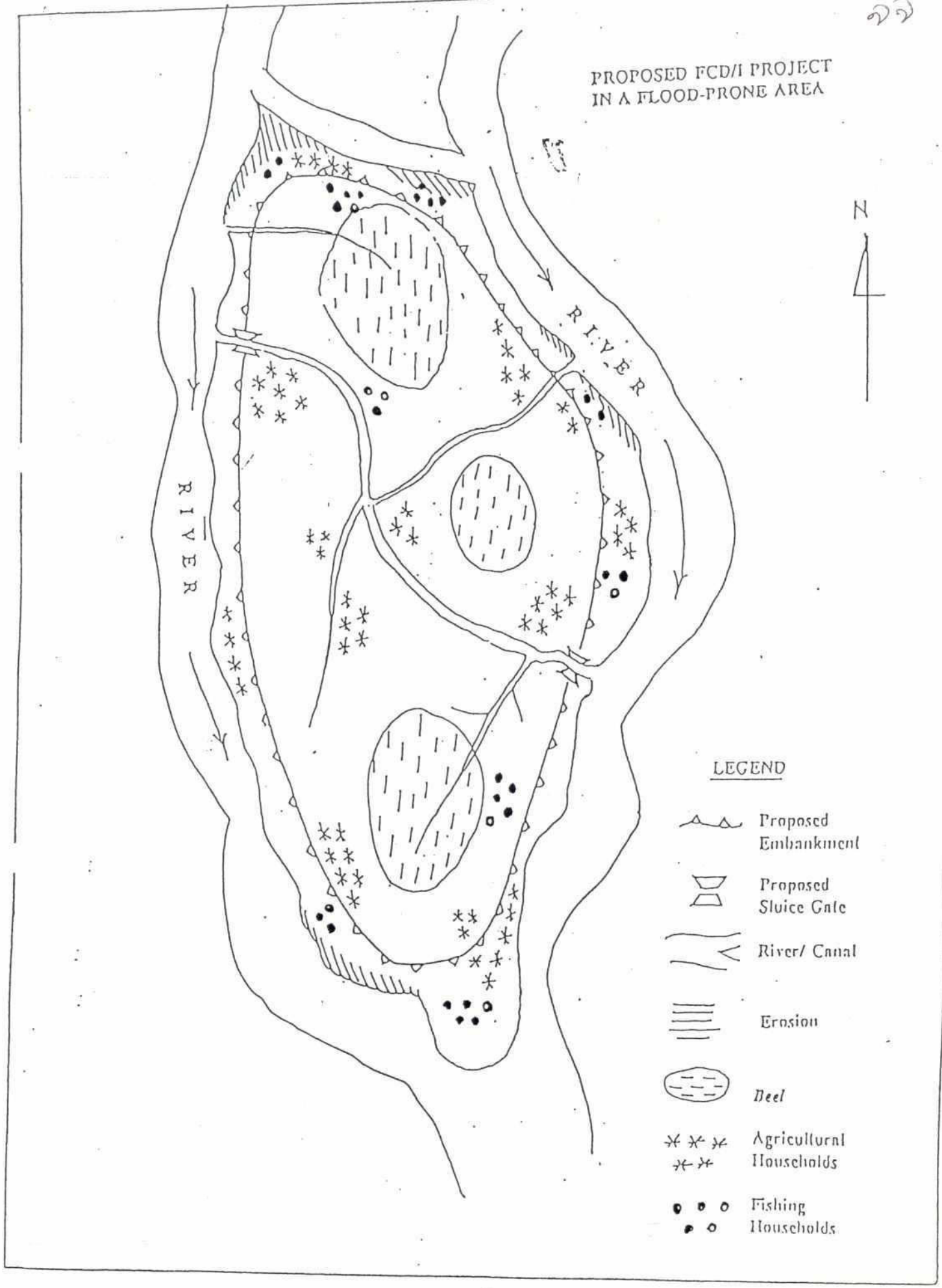
The project proposes to build an embankment-cum-road along the river on the northern boundary and install regulators at the off take of canals to control flooding within the project area.

Read the description above. Then discuss among yourselves and identify the IECs under the biological resource and human resource components. Write the IECs on flipcharts for presentation.

Exercise 7

The attached map shows the location of a hypothetically proposed regulator in an area in order to protect a growth center from flooding. Looking at some of the details provided on the map, and:

- identify a spatial boundary that you think would be useful in performing an EIA,
- indicate how you decided on the areas to be included within the boundary.


PROPOSED FCD/I PROJECT
IN A FLOOD-PRONE AREA
N
RIVER
RIVER
LEGEND
Proposed Embankment
Proposed Sluice Gate
River/ Canal
Erosion
Beel
Agricultural Households
Fishing Households

Exercise 8

Assemble an interdisciplinary team to collect primary data on the following major resource components for EIA of an FCD/I project:

- Water Resources
- Biological Resources
- Agriculture Resources
- Human Resources

Instructions: Under each resource heading identify the discipline specialists needed in order to obtain the data for the resource base. Explain why you chose these specialists during your presentation.

Exercise 9

The objective of this exercise is to develop a time line work plan to collect primary data showing the time line against each of the following activities:

- planning
- EIA team mobilization
- secondary data review
- reconnaissance field visit
- primary data collection
- data analyses; and
- environmental baseline development.

Note: Out of the total 18 months allocated for completing the EIA, use the first 14 months to complete the activities listed above.

Exercise 10

Suppose you are to conduct a socio-economic survey for creating a baseline in connection with the EIA of a proposed Flood Control, Drainage and Irrigation (FCD\I) Project (see attached map).

The geographical area for which the project has been proposed has the following characteristic features:

- It has large farming as well as fishing communities.
- There are some large *beels* in the area.
- Parts of the area are threatened by erosion.
- There is heavy reliance on navigation along canals/ rivers.

Given this background, prepar two different lists showing the kinds of socio-economic variables on which information can be best gathered through the use of:

a. Rapid Rural Appraisal (RRA)
b. Household Survey (HHS)

Exercise 11

Write down the sources of the following data and explain how they can be used in the baseline development of EIA of water development projects.

- Contour map
- Water level
- Rainfall
- Evaporation
- Water related problems

Exercise 12

Using the table given below prepare:

- a data base for each land use feature.
- determine the cropping intensity of the agricultural land.

Land Use Unit No.	Land Use Pattern	Area (ha)
Agricultural land		
1.	B.Aus-T.Aman-Rabi crop	300
2.	Jute-T.Aman-Rabi crop	250
3.	Boro-T.Aman	100
4.	B.Aman-Rabi crop	200
	Sub-total	850
Non-agricultural land		
5.	Forest	50
6.	Water	100
	Sub-total	150
	Grand total	1000

Exercise 13

Identify suitable method(s) and possible units of measurement for the quantification of different types of forests/vegetation. Provide justification for the suitability of the methods that you identify.

The following format may be used for presentation.

Types of Vegetation	Study Methods with Possible Units of Measurement	Justification
Homestead vegetation		
Road side plantation		
Shoreline vegetation		
Natural forest		
Shallow water phytoplanktons		

Exercise 14

The purpose of this exercise is to develop a detailed check-list of IECs for a baseline description of **capture and culture fisheries**. Your job is to identify the data/information that should be compiled quantitatively and qualitatively.

Instruction: Using the table below:

- Write the IECs in column 1.
- Identify IECs that need to be complied quantitatively or qualitatively in column 2.
- Write the units of measurement (where necessary) in column 3.

Important Environmental Components (IECs)	Quantitative\Qualitative	Units of Measurement
Column 1	Column 2	Column 3

Exercise 15

Using your knowledge, identify the hazards associated with a proposed FCD/I project in the Cox's Bazaar coastal area. Also identify the risks that are associated with the hazards. Indicate the methods that are used to collect information about the hazards

Exercise 16

The next page contains some baseline data on what a number of households perceived their major problem to be due to flood.

Use the data to perform the following tasks:

- Produce a simple table that is helpful for purposes of analysis.
- Make a graphical representation of the situation.

Household No.	Primary Occupation of the Head of Household (code)*	Major Problem Faced due to Flood (code)**
1	1	1
2	2	2
3	1	4
4	2	3
5	2	2
6	3	2
7	3	2
8	1	1
9	2	4
10	3	4
11	2	2
12	3	2
13	1	5
14	2	3
15	3	2
16	1	1
17	3	5
18	1	1
19	3	2
20	1	4
21	2	2
22	1	1
23	2	2
24	3	2
25	1	1
26	3	4
27	2	4
28	3	2
29	2	4
30	1	5

*
1 = Land-Owning Farmer
2 = Landless Agricultural Laborer
3 = Fisherman

**
1 = Crop Damage
2 = Problem of Shelter
3 = Shortage of Drinking Water
4 = Diseases
5 = Marketing Problems

Exercise 17

Interview people in the project area and identify and list the IECs that have been affected by the project. List both negative and positive impacts.

FIELD TRIP I - SCHEDULE

Time	Activities
10:00 - 11:30	Journey to NNI, Block A1
11:30 - 12:00	Refreshment at Pump house
12:00 - 13:00	Field work at Bronma Gaon
13:00 - 14:00	Field work at Haulipara
14:00 - 15:00	Return journey to Dhaka

BASIC INFORMATION SHEET

Name of the Project: NARAYANGANJ-NARSHINGDI IRRIGATION PROJECT : ***BLOCK- A1***

Location of the Project :

The project is located 20 km. east of Dhaka city and is bounded by demonstration unit of Narayanganj-Narshingdi Irrigation Project and the river Lakhya on the west side.

- Following are some of the basic information on **Block A1:**

Gross Area	:	3,000 ha
Net Irrigation Area	:	2,120 ha
Flood Embankment	:	23.68 km
Pumping Station	:	1 No. (4 pumps, 4*1.88 m^3/Sec)
Main Drainage Canal	:	11.52 km
Secondary Drainage Canal	:	19.24 km
Tertiary drainage Canal	:	9.35 km
Main Irrigation Canal	:	9.50 km
Secondary Irrigation Canal	:	18.93 km
Tertiary Irrigation Canal	:	26.33 km
Regulator	:	6 nos.
Pipeline Sluice	:	4 nos.
Spill Way	:	1 no.
Siphon	:	1 no.
Aqueduct	:	1 no.
Check Gate	:	2 nos.
Box Culvert	:	8 nos.
Bridge	:	10 nos.
Foot Bridge	:	51 nos.
Pipe Culvert	:	35 nos.
Turnout	:	55 nos.
Division Box	:	46 nos.
End Structure	:	42 nos.

Source : BWDB

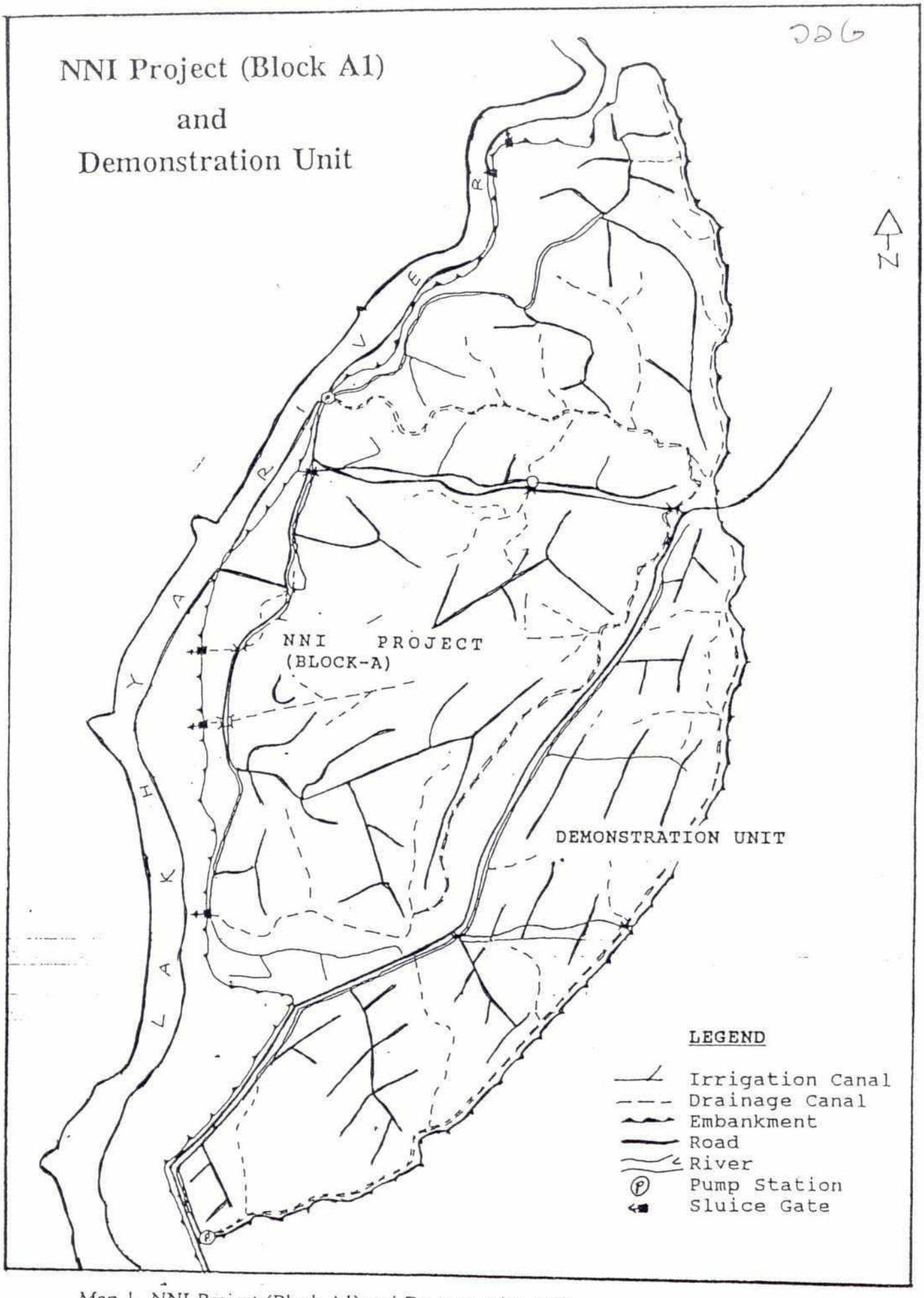
1. Location of Project: *NNIP*

The project is located 20 km. east of Dhaka City and is bounded by the Meghna on the east, the Lakhya on the west, Tongi-Narshingdi railway line on the north, and Dhaka-Comilla Highway on the south (Map-1).

2. Project Concept and Design

This is an FCDI (Flood Control Drainage and Irrigation Project) type project.

BLOCK A-1: Block-A1 consists of an area of 3,000 ha. The net irrigated area is 2,120 ha. The irrigation water is pumped from the Lakhya river. There are four pumps. Each pump has the capacity of pumping 4*1.88 m^3 water per second. Fifty-five kilometers of irrigation canals and 42 kilometers of drainage canals irrigate and drain the area. In addition, six regulators and four pipeline sluice gates facilitate drainage. These irrigation and drainage canals are divided into secondary and tertiary canals. The total length of the flood embankment is 23.68 km.



Map 1. NNI Project (Block A1) and Demonstration Unit

Journal 3: Developing Environmental Baseline

1. What would be the three most important secondary sources in conducting research for an EIA?

2. What are the major tools used to obtain data for a socio-economic baseline?

3. Who in my EIA team might find land use data useful for purposes of analyses?

MODULE 5

TRAINING PROCEDURES

MODULE 5: IMPACT ASSESSMENT AND EVALUATION

Total Time: **10.5 hours**
(7 Sessions)

Climate Setting

Set the climate by asking the participants what questions they still have about environmental baseline development at this point.

Procedure

1. Module Objective

Introduce the module objectives: ***to be able to identify, assess, and evaluate environmental impacts.***
Flipchart : Module 5 Objectives

This module will enable trainees to:

- assign appropriate scores to individual impacts.
- assign appropriate weights to individual impacts.
- determine what impacts are significant.
- explain how impact evaluation affects other aspects of the EIA.

2. Overview

Impacts are identified (or predicted) as part of the EIA process. Once identified, impacts must be assessed and evaluated in order to determine their effects. This is the main objective of performing EIAs.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

Q What did you learn about impact assessment (IA) from this experience?

Q What does IA mean to you?

Q What conclusions might be drawn about IA in the EIA process?

Q What are the most important things you have drawn from the session?

- [Q] What does IA suggest to you in general?
- [Q] What are some obstacles to applying IA to the EIA process?
- [Q] How can you overcome the obstacles?
- [Q] What strategy did FAP 16 use?
- [Q] What strategy would you use?

APPLICATION QUESTIONS

- [Q] How would you apply IA in your own EIA activities?
- [Q] What would hinder the application of IA?
- [Q] What would help the application of this concept?
- [Q] What modifications would make it work for you?
- [Q] What would you like to do with this information in your work site?
- [Q] What are the options open to you?

Session 1

Week 2, Day 9, Period 3

Procedure

1. Introduction

Introduce the session objectives: ***to understand how seasonality models can help in the EIA process.***
Flipchart: Session 1 Objectives

2. Lecturette

Introduce the concept of seasonal models. Discuss that the model captures the periodicity and fluctuations in the IECs and displays them in relation to the seasonal changes that occur. Point out that the model graphically represents and classifies the months according to seasons of importance to each IEC, to critical times of the year for particular resources, and season of periods when interventions would bring significant changes to the existing pattern of the IEC production, utilization or damage. This helps to identify impacts at the initial level, shows the relationship between seasonal variation and IECs, and helps us to understand how major resource components are affected by environmental changes such as floods and rainfall. Explain that the model is a very valuable tool in impact assessment because it can helps estimate future scenarios.

Q What is a seasonal model?

Q How can a seasonal model help us understand the relation between an IEC and seasonal changes?

3. Group Discussion

Show slides and explain how variation in the seasons affect major resource components. Let the slide show lead into a discussion on seasonal models and EIA.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session).

GENERALIZATION QUESTIONS

Q What have you learnt from the discussion on seasonality?

Q What kinds of information are required for developing a seasonal model?

Q How can seasonal models help in impact assessment?

APPLICATION QUESTIONS

- Q How will you make use of seasonal models in performing EIA?
- Q Why should an EIA study be conducted round the year?
- Q What constraints will you have if you conduct an EIA round the year?

4. Conclusion

Link the discussion to the session objective and forward it to the next session.

Session 2 Week 2, Day 9, Period 4

Procedure

1. Introduction

Introduce the session objectives: ***to understand the concept and method of trend analysis***
Flipchart: Session 2 Objectives

2. Lecturette

Introduce the concept of trend analysis. Mention the importance of trend analysis in making projections for the future. In discussing the method of trend analysis, explain how one has to decide on the variables on which to show trend. Point out the importance of deciding on a time frame within which to carry out the analysis. Discuss the statistical methods available for fitting the trend line. Show the way projections are made from trend lines with or without the project option.Flipchart: Trend Analysis: the concept; Trend Analysis: The Method.

Q What is trend?

Q How does trend analysis help us in predicting impacts of projects?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to learn the methods of trend analysis for EIA.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What do you understand by trend analysis for EIA?
- Q What kinds of trends can we anticipate in performing EIA?
- Q What do we mean by "future without project condition"?

APPLICATION QUESTIONS

- Q How will you make use of trend analysis in EIA?
- Q What changes will you need to make in order to carry out trend analysis at your work?

4. Conclusion

Link the discussion to the session objective. Summarize the points that were covered and link them to the next session.

Session 3 Week 2, Day 10, Period 1

Procedure

1. Introduction (extended)

(Trainer Note: Extended introductions are meant to be 5-10 minutes long, including climate setting and objective introduction. They are to provide some information that is additional to the exercise. Explain that this module begins to tie the entire EIA process together, because now they will be using the data that has been collected in order to predict impacts. Ask them what they think an impact is. Use that as a takeoff point to clarify what impacts are and how we assess them.)

Introduce the session objectives: ***to identify and assess the individual impacts.***
Flipchart: Session 3 Objectives

2. Lecturette

Start by asking the trainees what they think an impact is. Use that as a take off point to define impacts and classify them. The trainees should be clear that an impact is always measured against a defined future-without-project rather than against a baseline situation. They should also know how impacts are assessed and quantified. They should be able to differentiate between beneficial and adverse impacts and be aware of the fact that positive or negative impacts are relative. For instance, an impact that may be good for agriculture, may be bad for fisheries.

Q Can someone give examples of the three types of impacts that we have discussed?

Q How can an impact be good for one resource and bad for another?

Lead-in question for small group exercise:

Q From what you have learned about how to identify and assess impacts, what types of data would you need to assess impacts?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to identify and quantify (or qualify) the various impacts of a given project option.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What is an impact?
- Q How can impacts be both adverse and beneficial?
- Q Why is it important to assess both adverse and beneficial impacts?
- Q If there are differences of opinion between EIA team members as to whether an individual impact is beneficial or adverse, what may be the reasons for such differences?
- Q How would you resolve such differences?

APPLICATION QUESTIONS

- Q How would you apply your knowledge of impact assessment if you are to perform an EIA?
- Q What modifications/changes would you need to make in order to make the impact assessment method more useful?

4. Conclusion

Link the discussion to the session objective. Summarize the points that were covered and link them to the next session.

Session 4 Week 2, Day 10, Period 2

Procedure

1. Introduction

Introduce the session objective: ***to assign appropriate scores to individual impacts and to determine what impacts are significant.*** Flipchart: Session 4 Objective

2. Lecturette

Link the session to the previous session and refer the trainees to the matrix given to them in the previous session. Discuss the framework of the scoring criteria based on the EIA Guidelines. Point out that Bangladesh currently does not have national scoring guidelines. Explain how scoring is done. It is probably not appropriate to set everything at equal score. The trainees should understand the criteria used to determine scores. They should learn that scores are based on whether an impact is beneficial or adverse, have low magnitude or high magnitude, is reversible or irreversible, and is long-term or short-term.

Q How can we determine scores?

Q Are all impacts of equal significance?

Q When are impacts significant?

Definition: *Scoring* is a process of assigning significance value to an impact based on the **relative magnitude of the IEC** in the context of all environmental impacts identified in the EIA study. The relative magnitude is indicated by numbers as in a scale of 1-10, rather than by symbols or letters.

3. Group Discussion

The discussion should focus on the pros and cons of having a national scoring system. There will probably be some strong feelings one way or the other.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q Why is it important to assign scores to impacts?
- Q What are some of the ways to assign scores?

APPLICATION QUESTIONS

- Q How will you use the information about assessing impacts to modify the way you do EIAs?
- Q When will you begin using impact scores in the EIA process?

5. Conclusion

Link to previous session and to the next session.

Session 5 Week 2, Day 10, Period 3

Procedure

1. Introduction

(Trainer Note: Extended introductions are meant to be 5-10 minutes long, including climate setting and objective introduction. They are to provide some information that is additional to the exercise. The trainees should learn that environmental impacts require some sort of evaluation. Scoring provides a means of evaluating the significance of impacts as individual modifications of the environment, and subsequently, as collective changes in the environment. Further, the trainee should be able to determine the procedural consequence and methodology of qualifying impacts and then scoring them.

Trainer Note: Use the objective of the previous session. Point out that the exercise is a continuation of the previous exercise.

Q Once impacts have been qualified as to long-term vs. short-term, beneficial vs. adverse, reversible vs. irreversible, and low magnitude vs. high magnitude, how can we address their relative importance both for decision-making and mitigation management?

Q What are the advantages of the 21 point scoring scale for scoring impacts?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to develop narrative descriptions of impact types. matrix

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What are the advantage of using a 1 to 10 scale for impact evaluation?
- Q How many ways are there to develop impact scales?
- Q Should there be a single national scale for scoring impacts?

APPLICATION QUESTIONS

- Q When will you decide to change from one scale to another for impact evaluation?
- Q When will you able to begin using scoring scales in the EIA process?

5. Conclusion

Link the discussion to the earlier discussions on impact assessment to the subsequent discussion on assessing alternatives.

Session 6 Week 2, Day 10, Period 4

Procedure

1. Introduction

Introduce the session objectives: ***to assign appropriate weights to individual impacts and to calculate the total impact value of individual impacts.*** Flipchart. Session 6 Objectives

2. Lecturette

Start by referring to the previous session on scoring and the conclusions that were drawn during that session. Discuss the overall framework for assessing impacts based on the EIA Guidelines. Define and explain the meaning of the terms *weights* and *total impact value*. The trainees should learn that environmental impacts require weighting. Weighting provides a means of evaluating the significance of impacts as individual modifications of the environment and subsequently, as collective changes in the environment. Further, the trainees should be able to determine the procedural sequence and methodology fllor qualifying impacts and then weighting them. The trainees should learn that Bangladesh at present does not have any national guidelines for setting importance value to individual impacts.

- Q Are all impacts of equal weights?
- Q How can we adjust the weight of impacts?
- Q If a national weighting standard were to be developed, how should the different resources (physical, biological, human resources), be weighted on a 1-10 scale?
- Q Should there be regional or local standards?
- Q What criteria should be used to decide on the weight value?
- Q What is the significance and utility of total impact value?

Refer to the previous session. Explain to the trainees that the session is a continuation of the previous session. The trainees should understand how to use the 1 to 10 scale developed in the previous session to assign weight values to individual impacts.

Definition: *Weighting* is a process of assigning significance value to an impact based on the **relative importance of the IEC** in the context of all environmental impacts identified in the EIA study.

Introductory question for small group task:

- Q What are some ways to decide on the appropriate weights for individual impacts?

Q What recommendations can be made to the decision makers?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to assign appropriate weights to individual impacts and to calculate the total impact value of individual impacts.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

Q What are the advantages and disadvantages of using a 10 point weighting scale for assigning value to individual impacts?

Q How many other ways can you think of to developing weighting scales?

Q Should there be a single national scale of weighting factors, or should there be regional and project specific scales?

Q What is the significance and utility of total impact value?

APPLICATION QUESTIONS

Q How will you decide to use the weighting scale in a specific project situation if you are given the responsibility of performing the EIA?

Q At what point in the EIA process would you be able to use the weight scales?

5. Conclusion

Link the discussion to the earlier discussions on impact assessment and scoring and to the subsequent discussion on EMP.

Session 7

Week 3, Day 11, Period 1

Procedure

1. Introduction (extended)

(Trainer Note: Extended introductions are meant to be 5-10 minutes long, including climate setting and objective introduction. They are to provide some information that is additional to the exercise. Explain that part of the job of the EIA team is to be able to recommend courses of action to decision makers. Therefore, they must be able to assess alternatives and present those assessments to the decisions makers.)

Introduce the session objectives: ***to develop a capability to assess alternatives, and to make recommendations to decision makers.*** Flipchart: Session 7 Objectives

2. Lecturette

Explain that the EIA team needs to examine all reasonable alternatives to the proposed project that are technically and economically feasible. The trainees should learn that the alternatives must be described in as much detail as the proposed action. They should also understand that *no action* alternative, preferred alternative, and project alternative need to be compared. In comparing them, there is need to look at the common and unique impacts each alternative has, their advantages and disadvantages, the costs versus the benefits. Explain that the EIA team has to present summary comparison tables, and discuss the criteria used to select the preferred alternative. Weighting scale for impacts should also be presented. Paired comparison of alternatives should be made. Point out that the EIA team must also make recommendations about the preferred alternative.

2. Group Discussion

Introduce the discussion by asking the following questions:

- Q What are the advantages of assessing alternatives to the proposed plan?
- Q What should the criteria be in selecting one alternative over the other?
- Q When should we adopt a *no action* plan?
- Q **Can you name any project in Bangladesh where alternatives were considered?**

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- [Q] What are the advantages of comparing alternatives?
- [Q] Why must the EIA team be able to make recommendations to decisions makers about the preferred alternative?
- [Q] What should the purpose of such recommendations be?

APPLICATION QUESTIONS

- [Q] How will you develop recommendations for decision makers in your next EIA?
- [Q] What might hinder your ability to make recommendations?

4. Conclusion

Link the discussion back to the objectives and forward to the next session.

6. Module Synthesis

Summarize what has been learned during the module and review the module objectives. Discuss what the process has been to date (e.g. identify impacts, assess impacts, and evaluate impacts). Integrate the three activities in terms of the EIA process and the project cycle. You may want to conclude by asking the following questions:

- [Q] As a result of what you have learned, what might you do differently once you get back to work?
- [Q] How difficult will it be to do that?
- [Q] What might you do to overcome the difficulty?

Distribute Handout: Journal. Remind the participants that the journal is part of the back-at-work planning at the end of the workshop. Give them 10 minutes to fill it out.

7. Mid-term Evaluation

Explain to the trainees that we will give them an evaluation to fill out in order to make certain that we can keep the course on track for the future. Distribute Handout: Mid-term Evaluation Form, and explain what they should do to fill it out. Tell them that they should take approximately 30 minutes to fill out the dform.

MATERIALS

Flipchart : Module 5 Objectives
Flipchart : Session 1 Objectives
Flipchart : Trend Analysis: Concept
Flipchart : Trend Analysis: Methods
Flipchart : Small Group Task
Flipchart : Session 2 Objective
Flipchart : Session 3 Objectives
Flipchart : Small Group Task
Flipchart : Session 4 Objectives
Flipchart : Small Group Task
Flipchart : Session 5 Objectives
Flipchart : Small Group Task
Flipchart : Session 6 Objectives
Flipchart : Small Group Task
Flipchart : Session 7 Objectives

Handout : Journal
Handout : Mid-term Evaluation

MODULE 5

EXERCISES AND HANDOUTS

The materials on the following pages are intended for duplication and distribution to skills workshop participants. Each numbered exercise corresponds to a number that appears following the description of the exercise in the Training Procedures section. Supplemental handouts for the module are located in Volume II of the Trainer's Manual.

Exercise 18

Consider the following hypothetical time series data of past ten years on rice production in an area proposed to be brought under a Flood Control, Drainage and Irrigation (FCD\I) Project:

Year	*Rice Production (000' tons)*
1984	10.5
1985	10.7
1986	11.0
1987	11.1
1988	11.4
1989	11.8
1990	12.2
1991	12.5
1992	12.7
1993	12.9

In the light of the data provided above, do the following exercise:

- Draw a trend line showing rice production over the ten years for which data have been provided.
- Extend the trend line and find out the expected level of rice production in 1998 under the assumption that no project is implemented in the area and that the trend will continue.
- Supposing a Flood Control, drainage and Irrigation Project (FCD\I) is to be implemented in 1994, draw a hypothetically expected trend line of rice production (with project) from 1994 and find the expected level of rice production in year 1998.

Exercise 19

Quantified Impact Assessment

IECs (1)	Baseline Present Condition (2)	Future W/O Project (3)	Future With Project (4)	Impact Assessment Col.4 - Col.3	Percent Change
Land Type (ha)					
F_0	576	576	2472		
F_1	1821	1821	2906		
F_2	4248	4248	3461		
F_3	2552	2552	358		
Annual Crop Production (tons)					
Total Paddy Production	34376	37954	46031		
Total Rabi Production	7751	6447	8026		
Homesteads					
Garden crops (ha)	875	963	1050		
Tree Crops (ha)	875	963	1050		
Capture Fisheries (tons)					
Annual production	380	251	219		
Fish diversity (no. of Species)	56	51	28		
Culture Fisheries					
Annual Production	49	66	82		
Aquatic Habitat (ha)					
Monsoon Season	7138	No change	6008		
Wildlife					
Presently endangered species	7 species	5 species	3 species		
Presently threatened species	10 species	10 species	6 species		
Socio-economic					
Crop production wages (annual, w/o food, million TK.)					
Peak season	135.5	457.7	501.5		
Lean season	90.3	305.1	334.3		
Quality of Life					
Nutrition-crop based	NQ	NQ	NQ		
Nutrition-fish based	NQ	NQ	NQ		

Exercise 20

Assign scores using a 1 to 10 scale.

Quantified Impact Assessment: Scoring

IECs (1)	Baseline (Presentation) Condition (2)	Future W/O Project (3)	Future With Project (4)	Impact Assessment (Col4- Col3)	Score
Land Type (ha)					
F_0	576	576	2472	+1896	
F_1	1821	1821	2906	+1085	
F_2	4248	4248	3461	-787	
F_3	2552	2552	358	-2194	
Annual Crop Production (tons)					
Total Paddy Production	34376	37954	46031	+8077	
Total Rabi Production	7751	6447	8026	+1579	
Homesteads					
Garden crops (ha)	875	963	1050	+87	
Tree Crops (ha)	875	963	1050	+87	
Capture Fisheries (tons)					
Annual production	380	251	219	-32	
Fish diversity (no. of Species)	56	51	28	-23	
Culture Fisheries					
Annual Production	49	66	82	+16	
Aquatic Habitat (ha)					
Monsoon Season	7138	No change	6008	-1130	
Wildlife					
Presently endangered species	7 species	5 species	3 species	2 lost species	
Presently threatened species	10 species	10 species	6 species	4 declining spp.	
Socio-economic					
Crop production wages (annual, w/o food, million TK.)					
Peak season	135.5	457.7	501.5	+44	
Lean season	90.3	305.1	334.3	+29	
Quality of Life					
Nutrition-crop based	NQ	NQ	NQ	Improvement	
Nutrition-fish based	NQ	NQ	NQ	Further decrease	

Exercise 21

Assign weights and total impact values to earlier impact table on which scoring has been done. Use a 1 to 10 scale fo assigning weights.

Quantified Impact Assessment: Weight

IECs (1)	Baseline (Presentation) Condition (2)	Future W/O Project (3)	Future With Project (4)	Impact Assessment (Col4-Col3)	Score (S)	Weight (W)	
Land Type (ha)							
F_0	576	576	2472	+1896			
F_1	1821	1821	2906	+1085			
F_2	4248	4248	3461	-787			
F_3	2552	2552	358	-2194			
Annual Crop Production (tons)	34376	37954	46031	+8077			
Total Paddy Production	7751	6447	8026	+1579			
Total Rabi Production							
Homesteads							
Garden crops (ha)	875	963	1050	+87			
Tree Crops (ha)	875	963	1050	+87			
Capture Fisheries (tons)	380	251	219	-32			
Annual production	56	51	28	-23			
Fish diversity (no. of Species)							
Culture Fisheries	49	66	82	+16			
Annual Production							
Aquatic Habitat (ha)	7138	No change	6008	-1130			
Monsoon							

IECs (1)	Baseline (Presentation) Condition (2)	Future W/O Project (3)	Future With Project (4)	Impact Assessment (Col4-Col3)	Score (S)	Weight (W)	
Wildlife							
Presently endangered species	7 species	5 species	3 species	2 lost spp.			
Presently threatened species	10 species	10 species	6 species	4 declining spp.			
Socio-economic							
Crop production wages (annual, w/o food, million TK.)							
	135.5	457.7	501.5	+44			
Peak season	90.3	305.1	334.3	+29			
Lean season							
Quality of Life							
Nutrition-crop based	NQ	NQ	NQ	Improvement			
Nutrition-fish based	NQ	NQ	NQ	Further decrease			

Journal 4: Impact Assessment

1. What is meant by the term "impact" ?

2. How can I use trend analysis in assessing impacts?

3. How are impacts measured in EIA?

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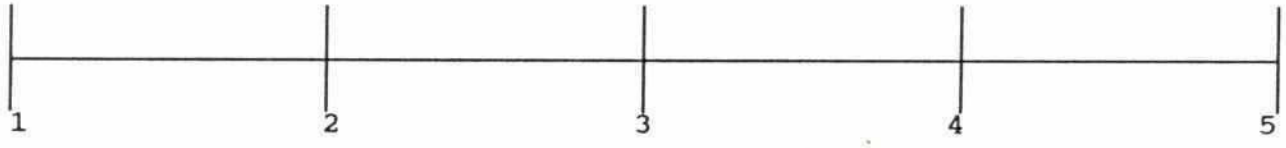
EIA SKILLS WORKSHOP, 1995

MIDTERM TRAINING EVALUATION

To help us structure a workshop that responds to your needs, we would like you to share your thoughts and feelings about the workshop to date.

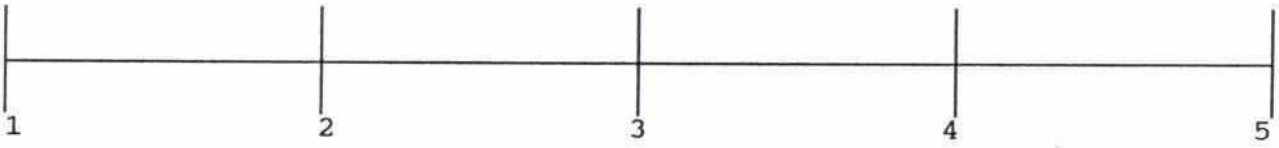
Instructions: Please mark an X on the scale provided.

1. Is the workshop achieving its objective, that is, to use the Guidelines to learn about EIA?



not at all — for the most part — completely

2. Were you clear about what the trainer wanted to accomplish in each session?



not at all — for the most part — completely

3. Which concepts are you not sure or clear about?

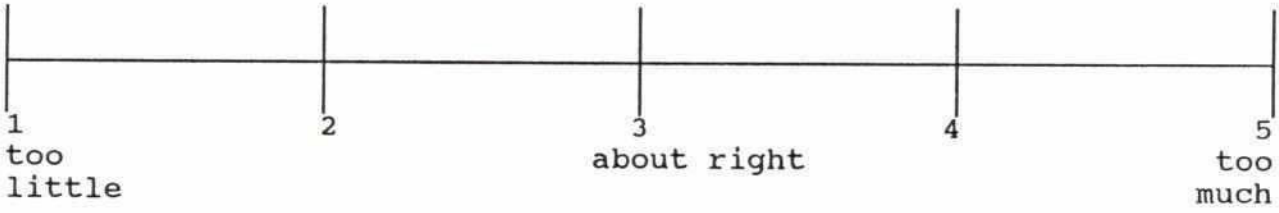
4. Are you beginning to enhance your skills in the areas specified below. Put a tick mark.

	Not much	Somewhat	Very much
Recognizing the need of EIA in project development			
Recognizing the components of the EIA process			
Appreciating the importance of habitat and ecosystem			
Understanding the concept of scoping			
Understanding the concept of bounding			
Using scoring and weighting to evaluate impacts			

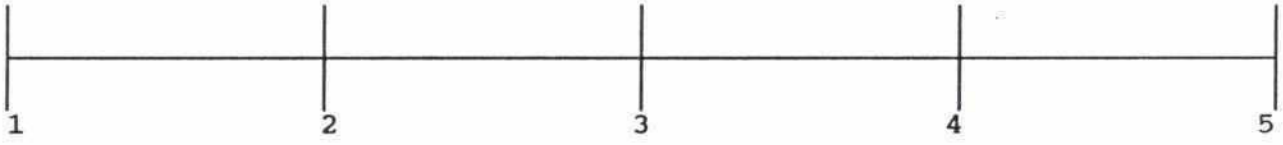
5. I would like to learn more about:

6. I think the speed of the work is:

7. I think the amount of information covered is:

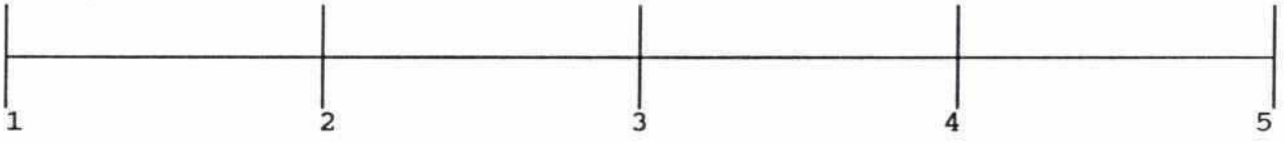


8. I think the exercises are:



not useful — useful — very useful

9. I think the handouts are:



not helpful — helpful — very helpful

10. I think the trainers could do more of:

11. I think the trainers could do less of:

12. I think the facilities are:

13. Other Comments:

MODULE 6

TRAINING PROCEDURES

MODULE 6: ENVIRONMENTAL MANAGEMENT PLAN

Total Time: **13.5 hours**
(9 sessions)

Climate Setting

Ask the participants to take a look at their journals and recall what general things were learned last week. Ask if there are any questions.

1. Module Objective

Introduce the module objective: ***to learn about the components of the Environmental Management Plan and how one goes about implementing them.*** Flipchart: Module 6 Objective

This module will enable the trainees to develop an EMP.

2. Overview

The EMP presents solutions to some of the potential problems identified by EIA.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q What is an EMP?
- Q What did you learn about the Environment Management Plan?
- Q What are the most important things you have drawn from it?
- Q What are some obstacles to using the EMP in the EIA process?
- Q How can you overcome those blocks?
- Q What strategy did FAP 16 use?
- Q What strategy would you use?
- Q What problems might you find?

APPLICATION QUESTIONS

- Q How would you apply the EMP to finalizing EIA reports?
- Q What would hinder the application of an EMP?
- Q What would help the application of an EMP?
- Q What modifications would make it work for you?
- Q What would you like to do with this information in your workplace?

Session 1 Week 3, Day 11, Period 2

Procedure

1. Introduction

Introduce the session objectives: ***to isolate the components of an EMP, and to see how they relate to the EIA.*** Flipchart: Session 1 Objectives

2. Lecturette

Present a lecturette discussing the various components of the EMP and their significance to the EIA. Any problems dealt with in the EMP should have been discussed earlier in the report. The trainee should learn that the EMP includes a number of component plans and contingent sections that address plan design and execution. The mitigation plan addresses measures that reduce negative impacts. The enhancement plan attempts to further strengthen the beneficial impacts. The monitoring plan tests predictions, verifies, and detects unforeseen impacts. The compensation plan addresses the means by which residual impacts may be compensated. The disaster (contingency) plan addresses public safety and avoidance of undue risks. Other sections include people's participation, institutional arrangements, and budget (plan scheduling, implementation priorities, and cost estimates).

Q What are the main components of the EMP?

Refer the trainees to the EIA Guidelines, Section 4.8, Environmental Management Planning (Step 8). As they discuss each of the different plans contained in the EMP, write the points on the white board.

Q What are the objectives of each of these plans?

Lead-in question for group discussion:

Q How do the EMP components relate to the EIA?

3. Group discussion

Objective: Identify and list potential improvements in planning outcome if EMP is incorporated into the project design.

GROUP DISCUSSION METHODOLOGY

Take five minutes to elicit from participants areas which need improvement during the pre-construction, construction, and operation and maintenance phase of a project.
Have them give the points to the trainer.
Trainer records them on the board.
Discuss the points that are listed on the board.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- [Q] What have you learned about the EMP that is important for performing an EIA?
- [Q] How can the EMP help to mitigate problems identified in the EIA?

APPLICATION QUESTIONS

- [Q] How will you incorporate this new information in your EIA activities?
- [Q] How will you deal with problems in trying to incorporate it?
- [Q] How will you develop mitigation and monitoring plans for a project with this information?

5. Conclusion

Link the exercise to the objective and to the next session.

Session 2 Week 3, Day 11, Period 3

Procedure

1. Introduction

Introduce the session objectives: ***to understand the need and importance of developing mitigation and enhancement plans to reduce adverse impacts, and to increase the overall benefits from the project.***
Flipchart: Session 1 Objectives

2. Lecturette

Use a lecturette to discuss that an EMP will outline the mitigation measures, including contingency plans for the management of residual adverse impacts. The discussion should focus on any adverse environmental effects that cannot be avoided if the project is implemented. Point out that mitigation measures are proposed to reduce the impact of project action. Explain the steps needed to develop a mitigation plan. Point out the need to identify and assess potential positive and negative impacts, and the need to propose a plan of action to reduce them. For example, recommending an alternative site for a project, or installing fish friendly structures at canal ends to allow fish migration. Explain that an enhancement plan includes recommendations for improving and modifying design features of the project to increase the efficiency and benefits of the project. It is complimentary to the mitigation plan.

- [Q] What is a mitigation plan?
- [Q] What are the objectives of a mitigation plan?
- [Q] What is an enhancement plan?
- [Q] How can enhancement measures increase the beneficial effects of the project?

Lead-in question for group discussion:

- [Q] Why is a mitigation plan part of an EMP?

3. Group discussion

The objective of the discussion is to help the trainees understand the importance of the need mitigation and enhancement plan in the EMP.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What have you learned about mitigation measures that is important for performing an EIA?
- Q How can the mitigation plan help to reduce problems identified in the EIA?

APPLICATION QUESTIONS

- Q How will you incorporate this new information in your EIA activities?
- Q How will you deal with problems in trying to incorporate it?
- Q How will you develop mitigation and an enhancement plans for a project with this information?

5. Conclusion

Link the points covered in the session to the objectives of the previous session. Link them forward to the compensation plan.

Session 3 Week 3, Day 11, Period 3

Procedure

1. Introduction

Introduce the session objective: ***to understand the meaning of compensation in EIA and to learn about necessary compensatory programs in the context of FCD/I projects.*** Flipchart: Session 2 Objective

2. Lecturette

Discuss the meaning of compensation in EIA, pointing out that certain losses cannot be mitigated and require compensation. Explain the types of losses requiring compensation in FCD\I projects (mainly agricultural land and homestead land). Present the steps involved in developing and executing a compensatory program. Discuss the importance of consultations with local people, assessment of type and degree of loss, decisions regarding compensation, and acceptability of compensation by affected people. Flipcharts: Meaning of Compensation, Types of Losses requiring Compensation, Essential Components of a Compensatory Program.

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of the exercise is to understand how compensatory programs should be drawn.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

Q In what way is compensation relevant to EIA?

Q What are the different ways in which compensation might be paid to affected people?

APPLICATION QUESTIONS

Q How would you apply the concept of compensation in EIA?

Q What problems do you anticipate in executing a compensatory program and how would you solve them?

4. Conclusion

Review the material covered in the session in the light of the role of compensation in the overall environmental management planning. Relate it back to the objective and forward to the next session.

Session 4 Week 3, Day 12, Period 1

Procedure

1. Introduction

Introduce the session objective: ***to understand the plan of action that is needed to mitigate reduce, or prevent the adverse effects of disasters on the environment.*** Flipchart: Session 3 Objective

2. Lecturette

Explain that a Disaster Management Plan is part of the EMP and consists of a set of measures that have to be taken to mitigate and prevent the effects of disasters. Also point out that the plan includes all aspects of preparing for and responding to disasters. It refers to risks and the consequences of disasters and includes both prevention and preparedness measures in anticipation of known hazards, and response to disasters when they occur. Discuss the steps and the methods that are used in the planning process. Handout: Disaster Management: Important Terminologies Related to Disaster Management (Volume II, Module 6).

- [Q] What are some of the components of a Disaster Management Plan?
- [Q] What are its objectives?
- [Q] How is it a part of EMP?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of the exercise is to understand the key elements of a disaster management plan.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q Whose comments would you seek after you have prepared a Disaster Management Plan?
- Q How does the Disaster Management Plan affect the EMP?
- Q How does the Disaster Management Plan ensure disaster preparedness?
- Q How does the Disaster Management Plan ensure disaster prevention?

APPLICATION QUESTIONS

- Q How will you ensure that the concerned persons are able to review the Disaster Management Plan of your next EIA?
- Q What problems would you anticipate in implementing a disaster management plan?

4. Conclusion

Review the material and link the discussion to the next session.

Session 5 Week 3, Day 12, Period 2

Procedure

1. Introduction

Introduce the session objective: ***to understand the role of monitoring in the EMP.*** Flipchart: Session 3 Objective

2. Lecturette

Explain that monitoring is an important component of the EMP and that it provides early warning of potential environmental damage, checks the implementation of mitigation measures, and ensures that impacts do not exceed legal standards. Point out that there are three types of monitoring activities: monitoring to collect data about the IECs in project area, impact monitoring to measure the changes in the IECs in post project situation, and compliance monitoring to ensure project compliance with environmental protection standards. Point out that monitoring also estimates costs and benefits of the project, and determines the roles and responsibilities of regulatory agencies.

- [Q] What are some of the components of a monitoring plan?
- [Q] What are its objectives?
- [Q] How is it a part of EMP?

3. Group Discussion

Lead into a discussion by asking the following questions:

- [Q] In the absence of machinery to implement the environmental laws in Bangladesh, how can we monitor projects?
- [Q] Which agency should have the responsibility of monitoring? Why?

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q Whose comments would you seek after you have prepared a monitoring plan?
- Q How does monitoring affect the EMP?
- Q How does the monitoring plan ensure that the impacts of the project do not exceed acceptable standards?
- Q How does a monitoring plan ensure the implementation of mitigation measures?

APPLICATION QUESTIONS

- Q How will you develop monitoring plans with the knowledge you have gained?
- Q What kinds of problems would you anticipate in implementing a monitoring plan?
- Q How would you solve these problems?

4. Conclusion

Review the material and link the discussion to the next session.

Session 6 Week 3, Day 12, Period 3

Procedure

1. Introduction

Introduce the session objective: ***to understand the role of existing legislation in Bangladesh, and the nature of the legislation.*** Flipchart: Session 3 Objective

2. Lecturette

Explain the need and importance of environmental legislation for EIA? Discuss the role of legislation in EMP and explain when legislative support is needed in project development. Discuss the laws that exist in Bangladesh. Point out that the laws are of two types: protective laws and planning laws. Introduce the major sources of GOB environmental policies and legislation. Discuss the legislation related to water resources. Talk about the status and limitations of the laws, and explain the status of the legislation relating to EIA. Handout: *Poribesh Nitti* (Volume II, Module 6).

- [Q] Why is there a need for environmental legislation?
- [Q] How can legislation protect the natural resources of Bangladesh?
- [Q] How can we ensure that the laws are implemented?

3. Group Discussion

Lead into a discussion by asking the following questions:

- [Q] In the absence of machinery to implement the environmental laws in Bangladesh, how can we ensure sustainable development?

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- [Q] What are some obstacles to implementing environmental laws?
- [Q] How can we overcome them?
- [Q] How does environmental policies ensure sustainable development?

APPLICATION QUESTIONS

- Q How will you ensure that the appropriate environmental policy is followed when you are performing EIA?
- Q What problems would you anticipate in implementing the policy?
- Q How would you resolve them?

4. Conclusion

Review the material and link the discussion to the next session.

Session 7 Week 3, Day 12, Period 4

Procedure

1. Introduction

Introduce the session objective: ***to understand the institutional framework needed for EIA in Bangladesh.*** Flipchart: Session 3 Objective

Trainer Note: Save some time at the end of the session for field debriefing.

2. Lecturette

Discuss the institutional framework needed in Bangladesh to implement EIA in feasibility studies of projects. Explain that implementation of EIA needs inter-agency commitment. Explain the role of lead agencies and their responsibilities in supporting the implementation of the EIA process. Discuss the role and responsibilities of DOE and other lead agencies in Bangladesh. Talk about the responsibilities of the EIA review committee and explain their role in the EIA process. Point out the status of the National Environmental Management Action Plan (NEMAP).

- Q Why is there a need to institutionalize EIA?
- Q How can we institutionalize EIA?
- Q What institution or institution (s) should be the lead agency (s) in Bangladesh? Why?

3. Group Discussion

The objective of the discussion is to help the participants understand the institutional setting ...???

Introduce the discussion by asking the following questions:

- Q Do you know which agency in Bangladesh has the official mandate for monitoring the environment?
- Q Do you know of any project which had an EIA or IEE?
- Q Should the Planning Commission/IMED monitor all project EMPs? Why? Why not?

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What are some obstacles to institutionalizing EIA in Bangladesh?
- Q How can we overcome them?
- Q What role should DOE and Planning Commission play in institutionalizing EIA? Why?

APPLICATION QUESTIONS

- Q **How would you apply what you have learned when you return to your workplace?**

4. Conclusion

Review the material and link the discussion to the next session.

Introduce the objective: ***to provide a field trip briefing.*** Flipchart: Field Trip Objective.

(Trainer note: Refer to Field Reports Volume II, Module 6 for information about field sites).

5. Field Trip Briefing

Tell the participants that they will be going to the field on the following day. Explain to them that they have come to the end of the module on EMP. The objective of the filed trip is to identify IECs so that they can develop an EMP to mitigate the negative impacts in the project area.
Talk about how the site was chosen, what has happened there, and what they will see.

Give them the field day instructions. Explain again about interviewing the local people to get data and information. Go over the instructions and explain your expectations. Tell the trainees that you will not be there for the purpose of answering questions but, rather, to help them if there is need.

Tell them that at the next session following the field trip you will spend time discussing the field visit. Divide the group into three teams and appoint a Team Leader and a Team recorder. Ask them if they are clear about the task and if they have any questions. Go over the logistical arrangements.

Handout: Field Trip Exercise

FIELD DAY Week 3, Day 13, Periods 1-4

Total Time: **8-10 hours**

1. Objective

The purpose of the field trip is to acquaint the trainees with the project, and the IECs that are likely to be affected by it. Based on these, they will develop an Environmental Management Plan in order to mitigate the negative impacts of the project.

Send three teams to three different locations for collecting data and information.

Probable time breakdown:

1. 15 minutes briefing on activities for the day.
2. 90 minutes travel
3. 15 minutes tea
4. 135 minutes
   acquire familiarity with project area
   associate project activities with environmental setting
5. 45 minutes lunch
6. 90 minutes return travel

Handout: Field Trip Materials

Session 12 Week 3, Day 14, Period 1-2

Field Trip Debrief

Introduce the session objectives: ***to have field trip debriefing.*** Flipchart: Field Trip Objective.

Set the Climate

Set the climate by asking the participants to think about what general things were learned prior to the field trip.

Procedure

1. Lecturette

(Trainer note: Remember to leave at least 30 minutes time for module synthesis at the end of field trip debriefing.)

Explain to the group that you would like them to explore what happened on the field trip and what they learned.

Tell them that in the first session team members will discuss among themselves and prepare the list of IECs that are likely to be adversely affected by the project and will propose mitigation plans for them. They will record their findings on flipcharts for presentation. After each team presents their findings, the floor will be open for discussion. Use the following questions to initiate the debriefing activities:

- Q What was our overall purpose?
- Q How did we meet that purpose?
- Q Was it easy or hard to identify affected IECs? Why?
- Q What do you suggest for EMP?
- Q What were the peoples' opinion about project impact and EMP?
- Q What steps could be taken to involve local community in EMP?
- Q How does observation apply to the EIA process?
- Q How can you apply this back at your own office?

Link the field trip objective to the module objective.

2. Module Synthesis

This part of the session should synthesize the material to which the trainees have been exposed in module 6. Start by asking if anyone has any questions about what has been covered. Explain that as part of the process we will talk about the things they have learned so far and how we might apply them. The session

should focus in generalizing and applying what they have learned to date. Start with a question and answer period that takes them through the course material for the week. This should reach a point where the trainer can clarify ideas, pull things together, and forecast the next week's activities. Distribute journals. Summarize what has been learned during the module, and review the module objectives.

Q As a result of what you have learned, what might you do differently once you get back to work?

Q How difficult will it be to do that?

Q What might you do to overcome the difficulty?

Distribute Handout: Journal. Remind the participants that the journal is part of the back-at-work planning at the end of the workshop. Give them 10 minutes to fill out the journal.

MATERIALS

Flipchart : Module 6 Objective
Flipchart : Session 1 Objective
Flipchart : Session 2 Objective
Flipchart : Small Group Task
Flipchart : Session 3 Objective
Flipchart : Session 4 Objective
Flipchart : Session 5 Objective
Flipchart : Session 6 Objective

Handout : Disaster Management: Important terminology related to Disaster Management (Volume II, Module 6).
Handout : *Poribesh Nitti* (Volume II, Module 6)
Handout : Field Trip Materials
Handout : Journal

MODULE 6

EXERCISES AND HANDOUTS

The materials on the following pages are intended for duplication and distribution to skills workshop participants. Each numbered exercise corresponds to a number that appears following the description of the exercise in the Training Procedures section. Supplemental handouts for the module are located in Volume II of the Trainer's Manual.

Exercise 22

Suppose an embankment is to be constructed alongside a river for controlling floods. If the construction involves losses of some homestead land as well as some agricultural land, and if no land is available in the immediate neighborhood for purposes of compensation, draw up a plan for compensating the following categories of affected households:

- Households losing only homestead land
- Households losing only agricultural land
- Households losing both homestead and agricultural land

Exercise 23

Field Trip II

Based on the information obtained during the field visit, suggest an Environmental Management Plan (EMP) for the affecred IECs.

FIELD TRIP II - SCHEDULE

Time	Activities
08:00	Leave for Tangail
11:30 - 12:00	Refreshment at school house
12:00 - 14:00	Field work
14:00 - 14:30	Lunch
14:45 - 16:30	Return journey to Dhaka

Field Trip - II
Sub-Compartment 9 in CPP, Tangail

Introduction

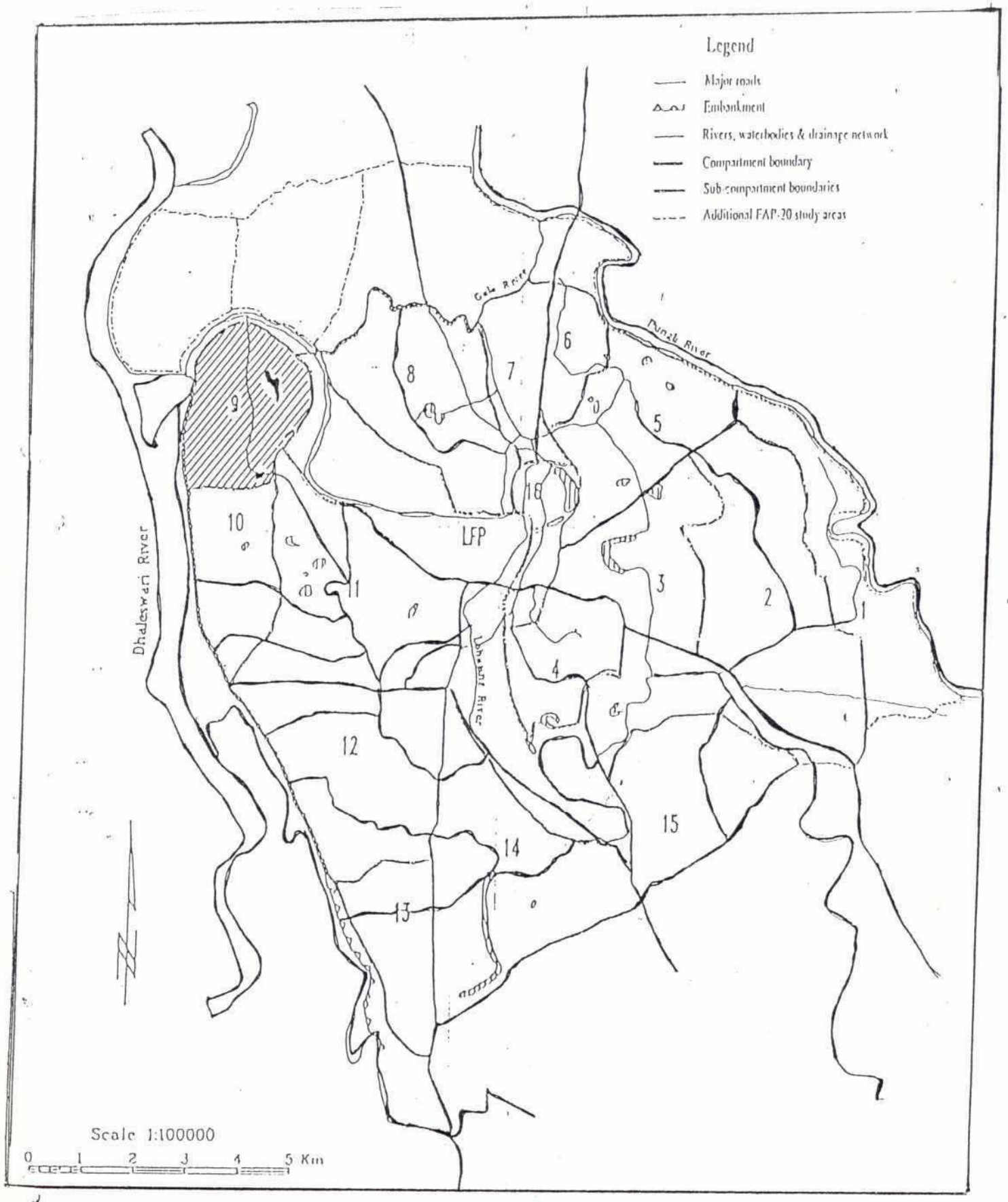
The CPP area is located in the north-central region, several km. east of the left bank of the Jamuna river. As defined by FAP 20, the western boundary of the CPP area is formed by the Dhaleswari river, a distributary of the Jamuna, and its distributary the Elanjani river. The Pungli river is the eastern boundary, and Gala Khal, which connects the Lohajanj and Pungli rivers, forms the northern boundary (map-1). The Lohajang river, the tributary of the Dhaleswari, flows in a NW-SE direction across the project area.

Sub-compartment 9 is located at the north-western periphery of the *Tangail* CPP. It is a semi-circular area surrounded by an embankment on the West along the *Dhaleswari* river and on the North and East along the *Lohajang* river. The earthen road from Dalan to Baghil forms the southern boundary. The total area is about 700 ha. The northern and western parts are high land. This sub-compartment consists of more medium high land and about 30% of the farm land is low, and has drainage congestion prblems.

River water from the Lohajang river enters the area through the Jugini Khal in the North. Flood water enters through the Kalibari Khal in Dippur and spreads through overland flow. Flood water drains out through Kalibari Khal in the South.

The project design includes the reexcavation of *khals* and construction of regulators at the off take of Jugini khal, Kalibari Khal with a view to regulate surface water flow at the periphery of this sub-compartment.

- Enough numbers of DTWs and STWs are operating in the area and ground water is adequately exploited. Discharge from the tube wells is normal except in drought years.
- Communication using boats occurs only in the monsoons as there is no proper entry and exit route from the Lohajong river. The road network is well developed. Problems caused by water hyacinth are not very serious in this area.
- Of the total area of 700 ha, 526 ha is net cultivated land. The major crops grown in the area are T. Aman on medium high to high lands and Boro (HYV) on medium high and medium low lands. TDW Aman is grown generally on medium low to low lands where flooding is to a maximum level of 3 m. Among the Robi crops, wheat is extensively grown. Mustard and pulse are grown in the area to a lesser extent.
- The sub-compartment area has a vast floodplain and two perineal *beels* called Juginidaha and Krishnapur Beel.
- There is no natural forest in the sub-compartment. However, the homestead forests are rich in the villages.
- Different NGOs, work in the area. Some of these are Grameen Bank, BURO, SDS and BRDB.
- Public facilities like UP Office, Post office, Health Clinic etc. are available in the area within two miles.



ISPAN

Base Map

Journal 5: Environmental Management Planning (EMP)

1. What is the purpose of EMP?

2. What are the four main sections of EMP?

3. What is the objective of the mitigation plan?

4. Why is it important to institutionalize EIA?

MODULE 7

TRAINING PROCEDURES

MODULE 7: DOCUMENTATION, COMMUNICATION AND DRAFT REPORT
Total Time: **3 hours**
(2 sessions)

1. Module Objective

Introduce the module objective: ***to understand the importance of maintaining good spoken and written communication throughout the EIA, to know what needs to be included in the EIA report and how to obtain feedback so that it can be incorporated to improve the report.*** Flipchart : Module 7: Objective

2. Overview

The trainees need to understand that in order for a report to be effective, information and data collected during the EIA process must be properly documentated and communicated. Throughout the EIA study it will be necessary to hold meetings, to manage information, and finally to report the information. That will be the focus of this module.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding each session.)

GENERALIZATION QUESTIONS

- Q What did you learn about communicating and reporting (C&R)?
- Q What conclusions might be drawn from it?
- Q What are the most important things you have drawn from it?
- Q What does it suggest to you about using C&R in the EIA process?
- Q What are some obstacles to incorporating C&R into the EIA process?
- Q How can you overcome those obstacles?
- Q What strategy did FAP 16 use?
- Q What strategy would you use?

APPLICATION QUESTIONS

- Q How would you apply what you have learned about C&R to your EIA?
- Q What would hinder the application of this concept?
- Q What would help the application of this concept?
- Q What modifications would make it work for you?
- Q What would you like to do with this information in your work site?
- Q What are the options open to you?

Session 1 Week 3, Day 14, Period 3

Procedure

1. Introduction

Introduce the session objective: ***to understand the importance of maintaining a good system of documentation and maintaining verbal and written communication throughout the EIA process***.Flipchart: Session 1 Objective

2. Lecturette:

Use a lecturette to help the trainees understand the necessity of documenting EIA activities and appreciate the need for maintaining effective communication among team members, project officials and local people at various stages of the EIA. The trainees should appreciate that the EIA team needs to manage all the information regarding proceedings of meetings, analyses of data, and decisions made during EIA. They also need to understand why documentation is needed, how to document, (including developing an effective filing and retrieval system), and which of the EIA steps need more documentation activities than others. They should also understand the different communication methods, the qualities of good communication, and which of the EIA steps would need more communication activities than others.

- Q In your work place, how do you generally communicate with your colleagues; formally or informally?
- Q Which types of communication are formal and which are informal? Can you give examples of both?
- Q For which types of information is it necessary to maintain written records?
- Q What types of information should be filed?
- Q What is the purpose of maintaining a file?
- Q What are the different ways in which you can document information?

Lead-in question for small group task:

- Q Assume you are preparing a written report regarding the management of a particular *beel*. What types of information will you include in it? How will you ensure that the quality of the report is good?

3. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to suggest ways of improving a written report so that it is clear, precise and can be easily understood.

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Leave 20 minutes at end for reporting.
Tell them they must prepare flipcharts within the time period.
The groups present their reports in plenary session.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

- Q What did you learn about documentation and communication?
- Q What conclusions might you draw from the session?
- Q Why is it important to document activities that occur during an EIA?
- Q What kinds of information should be documented?
- Q What problems do you anticipate when you document material?
- Q What problems do you anticipate when you communicate with team members and local people while doing an EIA?

APPLICATION QUESTIONS

- Q Who will you identify to develop the EIA documentation system, including filing and data management at your work place?
- Q If you are given the responsibility of developing the documentation system, what strategy or approach will you adopt?
- Q If you are to review an EIA document, what qualities of good communication would you look for in the report?

5. Conclusion

Conclude the session by linking it to the next session and explaining that without proper documentation and communication, and reporting, there is very little chance that the EIA report will serve its purpose.

Session 2 Week 3, Day 14, Period 4

Procedure

1. Introduction

Introduce the session objective: ***to know what needs to be included in the EIA report and how to obtain feedback and incorporate it to improve the report.*** Flipchart: Session 2 Objective

2. Lecturette

Discuss the necessary contents of the report. Make sure that the total EIA process is reflected in it. Also emphasize that the executive summary needs to be clear and the conclusion logically derived. Point out that an EIA report should be precise, clear and easy to read. Discuss the importance of including a section on recommendations in the report. Discuss whom to seek feedback from and how to seek it. Ensure that the trainees understand how to use the feedback in improving the report. Flipchart: Contents of an EIA Report, Importance of Feedback, Whom to Seek Feedback from, and How to Seek Feedback.

Q What major areas need to be covered by the EIA report?

3. Group Discussion

Through discussion, elicit from the participants the different parts of an EIA report. Write the suggestions on the board. Then ask them to organize their suggestions in a way that you can help them draw the outline of an EIA report. Sum up the discussion.

4. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session.)

GENERALIZATION QUESTIONS

Q What needs to be incorporated into an EIA report?

Q Why is it important for the team to seek feedback for improving the report?

APPLICATION QUESTIONS

Q How will you ensure that all important elements of the EIA process are included in the report?

Q In your work place what steps can you take in soliciting feedback from different groups to improve the report?

5. Conclusion

Review the session in the light of what needs to be covered by the report and how it can be accomplished. Conclude the session by linking it to the next session.

6. Module Synthesis

Summarize what has been learned during the module and review the module objectives.

- [Q] As a result of what you learned in this module what might you do differently once you get back to work?
- [Q] How difficult will it be to do that?
- [Q] What might you do to overcome the difficulty?

Distribute Handout : Journal. Remind the participants that the journal is part of the back-at-work planning at the end of the workshop. Give them 10 minutes to fill it out.

MATERIALS

Flipchart : Module 7 Objective
Flipchart : Session 1 Objective
Flipchart : Small Group Task
Flipchart : Session 2 Objective
Flipchart : Small Group Task

Handout : Journal

MODULE 7

EXERCISES AND HANDOUTS

The materials on the following pages are intended for duplication and distribution to skills workshop participants. Each numbered exercise corresponds to a number that appears following the description of the exercise in the Training Procedures section. Supplemental handouts for the module are located in Volume II of the Trainer's Manual.

Exercise 24

Please read the following passage and answer the questions that are listed below.

Too many Cooks Spoil the Broth

The land of the lake belongs to the PWD, the FD has an annual budget for the development, conservation and release of fish fries in the lake and the DCC has simply a supervisory role over its management. Three authorities share the responsibility of managing the waterbody which flows over 150 bighas of land. However, pollution and other resources degradation brings in the DOE. The fishing right is leased out by the FD to the SMS for an annual commission. The SMS shares no responsibility with the FD other than engaging guards against unauthorized fishing.

- Do you find the passage difficult/easy to understand?
- If it is difficult, list what the problems are.
- Suggest how you would make it easier to understand.

Journal 6: Documentation, Communication and Draft Report

1. Why is it important to maintain files of all materials used in EIA?

2. Why is communication among team members important for EIA?

3. What are the most important aspects with regard to the preparation of a draft report on EIA?

MODULE 8

TRAINING PROCEDURES

MODULE 8: EIA REVIEW

Total Time: **18 hours**
(8 sessions plus closing day)

Climate Setting

Remind the trainees that we are coming to the end of the program and that we have only a couple of days left. Discuss the program for the next two days. Also explain a little about the closing ceremony.

1. Module Objective

Introduce the module objective: ***to understand the mechanism of an EIA review and determine whether an EIA has been adequately performed.*** Flipchart: Module 8 Objective

This module will enable the trainees to:

- understand the EIA review mechanism
- determine whether an EIA has been adequately performed

2. Overview

Once an EIA is written up it is necessary to review it and determine its adequacy. This will be done by several different people, including the EIA study team leader, the project officer, the project proponent, and the decision maker. It is important to understand the various decisions that go into putting the report together, and seeing that it is written for multiple audiences.

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding session.)

GENERALIZATION QUESTIONS

- [Q] What did you learn about EIA review (EIAR) from this experience?
- [Q] What are some elements of a good review?
- [Q] What kinds of recommendations can you make after you have reviewed an EIA document?
- [Q] What obstacles have we identified to doing a good EIA?

APPLICATION QUESTIONS

- Q How would you apply what you have learned about the EIA process when you review an EIA document?
- Q What would hinder the application of EIA process in reviewing an EIA document?
- Q What would help the application of EIA process?
- Q What would you like to do with this information in your work place?
- Q What are the options open to you, if you have problems in implementing what you know?

Session 1 Week 4, Day 15, Period 1

Procedure

1. Introduction

Introduce the session objective: ***to understand the mechanism of EIA review.*** Flipchart: Session 1 Objective

2. Lecturette

Discuss the review procedures as outlined in the EIA Guidelines, and explain the importance of understanding how to review an EIA document. Explain that the purpose of the EIA review is to assess the adequacy of the EIA. Discuss the steps involved in reviewing an EIA document. The reviewer must examine whether the EIA has addressed relevant environmental issues, whether the data and analysis are adequate and reliable, whether the EMP makes adequate provision for mitigation, and compensation, and their is sufficient budget and manpower to accomplish the stated objectives. The EIA study should also include a DMP. The reviewer should also judge whether the report is clear and easy to read and whether it contains a section on recommendations. The trainees should understand that based upon their recommendations, the decision maker will either accept the project, reject it, or accept it with modifications. Point out that three reviews by three different groups of reviewers is recommended.

- Q Why is EIA review so important?
- Q What is the main objective of EIA review?
- Q How many reviews are required? Why?

Explain that the major areas for review are:

- Q Is the data adequate and consistent throughout the report?
- Q Are conclusions supported by the data and its analysis?
- Q Are all the impacts identified?
- Q Has people's participation been adequate?
- Q Is the EMP reasonable?
- Q Why would you accept or reject the report?

Tell them that in all instances, they must provide examples of why they believe the data or information is either sufficient or insufficient.

Session 2

Week 4, Day 15, Period 2

Procedure

1. Introduction (extended)

(Trainer Note: Extended introductions are meant to be 5-10 minutes long, including climate setting and objective introduction. They are to provide some information that is additional to the exercise. Explain that now that we have learned what goes into making a good EIA, the participants will get the chance to practice reviewing an EIA. The purpose here is for reviewers to have the chance to practice their skills and a chance to see what reviewers look for. Lead the class in a discussion about what would make a good EIA and what would cause one to be not so good. Most of this session will be devoted to explaining the assignment).

Introduce the session objective: ***to determine whether an EIA has been adequately performed.*** Flipchart : Session 2: Objective

2. Lecturette

Discuss the final exercise. Distribute a EIA report in the water sector. You may be able to get one from the Flood Plan Coordination Organization (FPCO), or from Water Resources Planning Organization (WARPO), or from BWDB library. Explain the status of the document. (Alternately, you may use the Bhelumia and Bheduria Case Study Report. See Volume 2. Explain the status of the report. Tell the trainees it reports the findings of an EIA case study, but is not a full scale EIA study. Without giving them the impression that they cannot complete the exercise, emphasize that they will need to be very careful with their time. Tell them that they have to carefully read the sections assigned to them. Handout: Bhelumia Bheduria Case Study (Volume II, Module 8).

2. Small Group Exercise

Introduce the small group task. Flipchart: Small Group Task

The purpose of this exercise is to perform an EIA review.

The first stage is to review (read) the EIA within the team.

The suggested schedule for completing the exercise.

- Session 3 — Form teams, choose group leader and recorder, decide who will review which sections, begin reviewing material listed above.
- Session 4 — Reviewing material listed above.
- Session 5 — Finish review of all materials.
- Session 6 — Group discussion, prepare flipcharts.
- Session 7 — Begin presentations. *(Note: there will be a 10 minute time limit for each group.)*

SMALL GROUP METHODOLOGY

Divide the group into 3 teams.
Have them appoint a Team Leader and Team Recorder.
Tell them they must prepare flipcharts within the time period.
The groups present their reports.

Sessions 3-8

Week 4, Day 15, Periods 3-4
Week 4, Day 16, Periods 1-4

Climate Setting

Set the climate by asking the participants what questions they have about the task?

Procedure

1. Introduction (extended)

(Trainer Note: Extended introductions are meant to be 5-10 minutes long, including climate setting and objective introduction. They are to provide some information that is additional to the exercise. Go directly into the continuing activities, but first ask the questions below.)

Reintroduce the session objective: ***to determine whether an EIA has been adequately performed.*** Flipchart: Session 3-4 Objective

2. Small Group Exercise (cont.)

Reintroduce the small group task. Flipchart: Small Group Task

The team will review the EIA report and determine its adequacy using the EIA Guidelines. The major areas for review are:

- [Q] Is the data adequate and consistent throughout the report?
- [Q] Are the conclusions supported by the data and its analysis?
- [Q] Are all the impacts identified?
- [Q] Has people's participation been adequate?
- [Q] Is the EMP reasonable?
- [Q] Would you accept or reject the report?

Session 9 & 10 Week 4, Day 17, Periods 1-2

Procedure

1. Introduction (extended)

(Trainer Note: Extended introductions are meant to be 5-10 minutes long, including climate setting and objective introduction. They are to provide some information that is additional to the exercise. Congratulate the group on completing a very difficult task and explain that now they will make their final presentations.)

Reintroduce the session objective: ***to determine whether an EIA has been adequately performed.*** Flipchart: Session 3-4 Objective

2. Small Group Presentation and Discussion

Presentation of the groups' findings (following the EIA Guidelines) about the report, followed by discussion about it.

Small Group Presentation

60 minutes - writing on flipcharts
30 minutes — presentations

Discussion

90 minutes — discussion

3. Generalization and Application Questions

(Trainer Note: Questions such as those below are intended to be used prior to concluding the session).

GENERALIZATION QUESTIONS

- Q What conclusions can we draw from the presentations that you have made?
- Q How easy or difficult will it be to review an EIA document?
- Q What are some difficulties that you will encounter when you review an EIA document?

APPLICATION QUESTIONS

[Q] As a result of what you have learned, what might you do differently once you get back to work?

[Q] How difficult will it be to do that?

[Q] What might you do to overcome the difficulty?

4. Module Synthesis

This part of the session should synthesize the material to which the trainees have been exposed. The session should focus on generalizing and applying what the trainees have learned in the module. The trainer should be able to pull things together and clarify ideas.

Distribute Handout A: Journal. Remind the participants that the journal is part of the back-at-work planning at the end of the workshop. Give them 10 minutes to fill out the journal.

Session 11 Week 4, Day 17, Period 3

Procedure

Question and Answer and Synthesis

This is the final opportunity for the participants to tie together everything they have learned about EIA. Spend the time conducting a question and answer session. **If possible, have the resource persons who prepared the EIA report present in the session** so that all questions can be addressed. After the question and answer session, go directly into the final synthesis. This session will cover the entire training. Remember, this is **not** a test of the participants' abilities or understanding, it is simply to allow them to see how much they have learned.

Session 12 Week 4, Day 17, Period 4

Procedure

1. Post-test

(Trainer Note: Explain that the post-test is intended only to help them see how much they have learned since the beginning of the training. The post-test and evaluation should each take about a half hour to complete.)

Distribute Handout: Post-test, and explain that they should take 20 minutes to complete the test. Tell them that it is the same as the test they took on the first day. Also tell them that we would like to make copies of the tests in order to see how well they have done. Distribute the pre-test and ask them to compare the two. Tell them that there are no grades.

2. Final Evaluation

(Trainer Note: Give the Final Evaluation. Explain that the evaluations are used to seek learner reactions so that they can help trainers to improve future programs. The evaluation should take about an hour to complete.)

Distribute Handout: Final Evaluation. Explain that the evaluation should take them one hour to complete.

MATERIALS

Flipchart : Module 8 Objective
Flipchart : Session 1 Objective
Flipchart : Session 2 Objective

Handout : Bhelumia and Bheduria Case Study (Volume II, Module 8).
Handout : Post-test
Handout : Final Evaluation

Week 4, Day 18, Period 1-2

Procedure

Closing Ceremonies

Introduce the speakers and, following their speeches. Have a participant representative speak on their behalf. Thank them for their remarks. Then have the chief guest distribute the certificates.

(Trainer Note: Introduce speakers in order of rank. The speaker who is most senior speaks last. The most senior of the speakers should distribute the completion certificates to the workshop participants.)

MODULE 8

EXERCISES AND HANDOUTS

The materials on the following pages are intended for duplication and distribution to skills workshop participants. Each numbered exercise corresponds to a number that appears following the description of the exercise in the Training Procedures section. Supplemental handouts for the module are located in Volume II of the Trainer's Manual.

Journal 7: EIA Review

1. Why is careful review of an EIA report so important?

2. What major points need to be remembered in reviewing an EIA report? Why?

3. What recommendations may follow from the review of an EIA report?

Post-test Questions

Name: _____ Date: _____

1. What is EIA?

2. Why is Environmental Impact Assessment (EIA) important in project development?

3. Why is people's participation important in an EIA?

4. In the context of a project, how do you identify Important Environmental Components (IECs)?

5. What are the steps involved in carrying out an EIA?

6. Why do we need baseline information to do an EIA?

7. How can we assess impacts of projects on environment?

8. What is the purpose of Environmental Management Plan (EMP)?

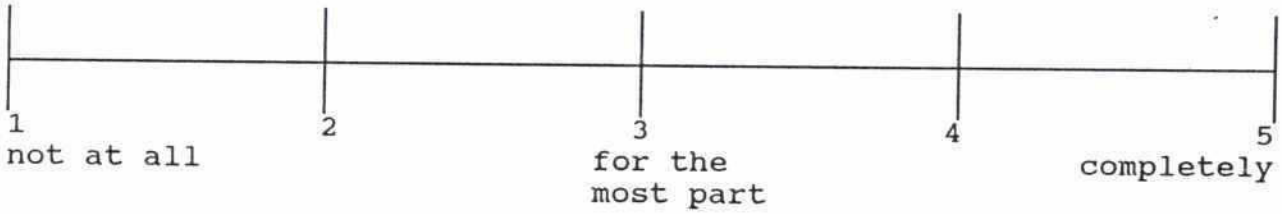
EIA SKILLS WORKSHOP, 1995

FINAL TRAINING EVALUATION

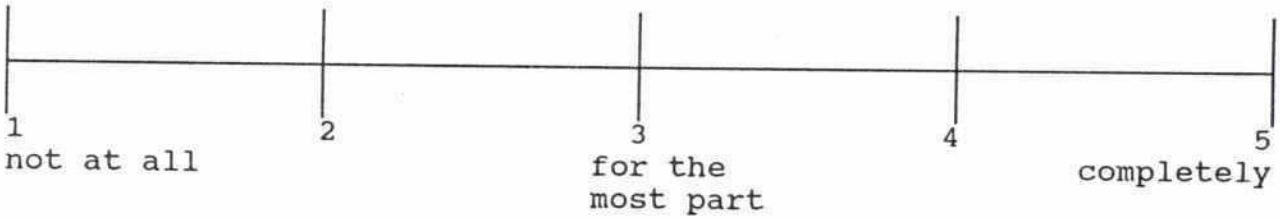
In order to help us design future workshops that respond to your needs, we would like to ask you to share your thoughts and feelings about the workshop you have just completed.

Instructions: Please mark an X on the scale provided, or use the space provided for your comments.

1. Did the workshop achieve its objective of helping you to use the Guidelines to learn about EIA?



2. Did the workshop meet your expectations?



3. How do you think you will apply the lessons you have learned in the workshop?

4. What area(s) did you learn the most about?

5. What area(s) did you learn the least about?

6. Module by module which topics would you add, delete, emphasize more, emphasize less.

Module 1: Introduction of EIA

Module 2: People's Participation

Module 3: Developing Environmental Baseline

Module 4: Impact Assessment

Module 5: Environment Management Plan (EMP)

Module 6: Documentation & Communication & Draft Report

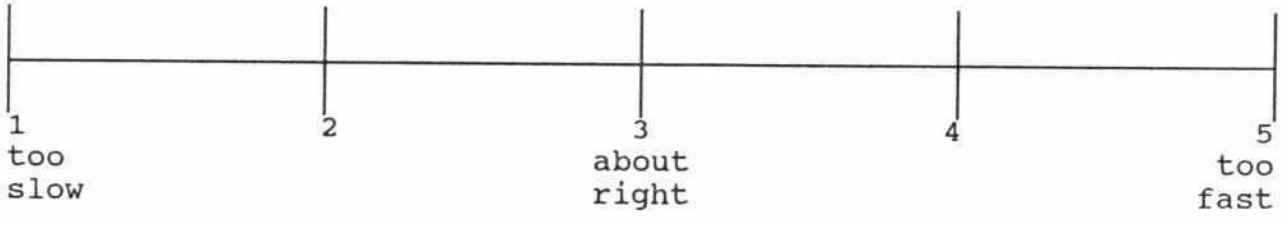
Module 7: EIA Review

7. Which techniques of instruction (lecturettes, practical exercises, group discussions, case study, field trips, journals) did you learn:

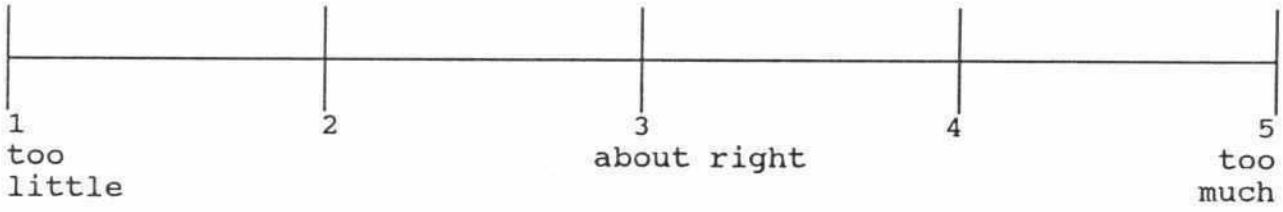
a. The most from:

b. The least from:

8. I thought the speed of the work was:



9. I thought the amount of information covered was:



10. Were the handouts helpful? If no, why not?

11. In what ways could the instructors improve their performance?

12. Would you recommend the workshop to others?

13. Please add other comments you would like to make about any aspect of the workshop.