

Progress Report

Coordination of Research and Training on Valuation of the Ecosystem Services
from Mangrove and Coastal Ecosystems.

April 1, 2015



Wednesday, April 01, 2015

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National Coordinator, Bangladesh
Mangrove for the Future Initiative
MFF National Secretariat
House 16, Road 2/3
Banani, Dhaka 1213

Submission of the first progress report

Dear Mrs. Anwara Begum Shelly

This refers to our contract between IUCN and the Asian Center for Development for the purpose of “Coordination of Research and Training on Valuation of the Ecosystem Services from Mangrove and Coastal Ecosystems”.

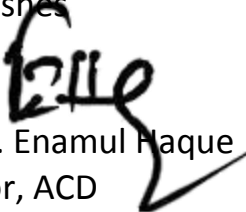
Under the contract, we have completed the following tasks:

1. Call for proposal
2. Three research grantees selected through transparent and efficient process
3. Workshop design/Training module.

We have completed the research workshop and its follow up actions by now and would like to submit our formal progress report on this.

We sincerely hope that we have been able to complete our tasks according to your satisfaction.

Best wishes


Dr. A.K. Enamul Haque
Director, ACD

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Deliverable 1: Call for Proposal

ACD Team in collaboration with SANDEE-resource persons, planned for the call for proposal. The following steps were taken to finalize the call.

1. Developed a *guideline for evaluation of the proposals*. (enclosed)
2. Developed the *Call for Proposal* (enclosed)
3. Published the **call on** ACD website

<http://acdonline.org/mangrove-future-research-initiative/>

4. Sent emails to SANDEE-associates in Bangladesh with the **Call for Proposal** and the **Guideline for Evaluation**

[email was sent to SANDEE Associates trained through the Environmental Economics Course (Summer School) from 2003-2013 and to researchers who have attended at least one Research & Training Workshop from Bangladesh and who are actively involved in research]



ACD's Call for Research Proposal

Asian Center for Development is inviting a research proposal from researchers, who have already done research work under [SANDEE](#)¹ banner or have been trained by SANDEE and are residing in Bangladesh, on **Valuation of ecosystem services from mangroves and coastal ecosystems**. Proposal may concentrate on valuing the benefits accruing to local people in terms of direct and indirect use of coastal or mangrove ecosystem services. The research proposal shall be within 15,000\$-20,000\$ and must be completed within June, 2015.

Timeline

Deadline of proposal submission: February 10, 2015

Final Report: June 30, 2015

Guidelines for Proposal Submission:

1. *Abstract:* Provide a concise description of the proposed project or activity (maximum of 100 words). Include a brief title for your project or activity.
2. *Rationale:* Provide a rationale about why the project should be funded. Demonstrate use of current research, data and other sources to form the rationale, as appropriate.
3. *Alignment with strategic priorities:* Identify which and in what way the project or activities are aligned with strategic priorities.
4. *Purpose and proposed outcomes:* Clearly state the purpose or aims of the project/activity. Delineate the proposed outcomes.
5. *Plan of Work:* Provide the specific details of the project or activity. Include a timetable and specific activities to meet the purpose and proposed outcomes. **Final Report Submission is on 30 June, 2015**

¹ South Asian Network for Development and Environmental Economics

6. *Research Method:* Indicate specifically how the results of the research will be measured. Include proposed qualitative and quantitative methodologies of the study.
7. *Budget:* Submit a complete budget; include narrative explanation / justification. **Budget limit is \$15000 to \$ 20000.**
8. *Key personnel:* Include names, titles and contact information for all key personnel. Include a brief description of each person's role in the project.

Submission of Proposal

To receive the research grants, all participants have to submit a research proposal on valuation of ecosystem services of mangroves and coastal ecosystem. The proposal should explain the main research question addressed, as well as an idea about the methodology employed and the expected outcome. The proposal should have a length of 3 to 5 pages and should be submitted, preferably in pdf-format, to the project coordinator of ACD at the following e-mail address: mff@acdonline.org

Three research grants will be awarded on the merit of the research proposal. Proposals will be reviewed by a panel of experts. Once the proposal is accepted, research teams will be called for a workshop in Dhaka in the middle of February to finalize the research methods.

Guideline for Evaluation

Asian Center for Development

Committed towards sustainable development in Asia



Research Proposal Evaluation Guideline

1. Research problem should be clearly spelled out in the proposal to formulate research objectives and questions. The proposal must be specific and clear in terms of its objectives and research questions. For the following questions should be addressed:
 - a. what would you like to investigate in your research?
 - b. why would you like to conduct this research?
 - c. How the findings of the research would be used or useful?
2. An extensive review of the relevant literatures will be required and a critical review of what has been written on this issue should be included in the proposal. The review of literatures should help determine the methodology of the research, avoid duplication of research, and add value to the society/community and academia.
3. Research questions and hypothesis should be clearly stated in the proposal
4. The research process begins the moment one chooses a topic. Research method is used to answer the research questions. Please state the procedures and techniques that you would use to collect the data. In addition, you need to focus on data analysis process, analytical framework and ethical considerations as the research will focus on human issues. IN this proposal, you also need to justify the research design you choose.
5. Proposal must include a schedule (timetable) and detained budget.
6. The research proposal must be clear in formulating objectives and research questions. Furthermore, the proposal should clearly define its expected output.

Deliverable 2: Selection of Research Grantees

In order to complete the process ACD used an interactive approach.

1. The selection committee of Asian Center for Development is led by Professor A.K. Enamul Haque., PhD. Other members of the committee are Dr. Santadas Ghosh, Associate Professor at the Viswa Bharati University in West Bengal, India and a SANDEE Fellow; Dr. Heman D Lohano from SANDEE Secretariat, and Dr. Pranab Mukhapadhya, Goa University.
2. After receiving initial reaction, ACD discussed initial research ideas with four SANDEE associates in Bangladesh. They are: a) Dr. Mahfuzur Rahman (University of Chittagong); b) Dr. Ziaul Haider (Khulna University), c) Mohammad Zakir Hossain Khan (Economic Research Group); and d) Suzana Karim (Dhaka Univeristy).

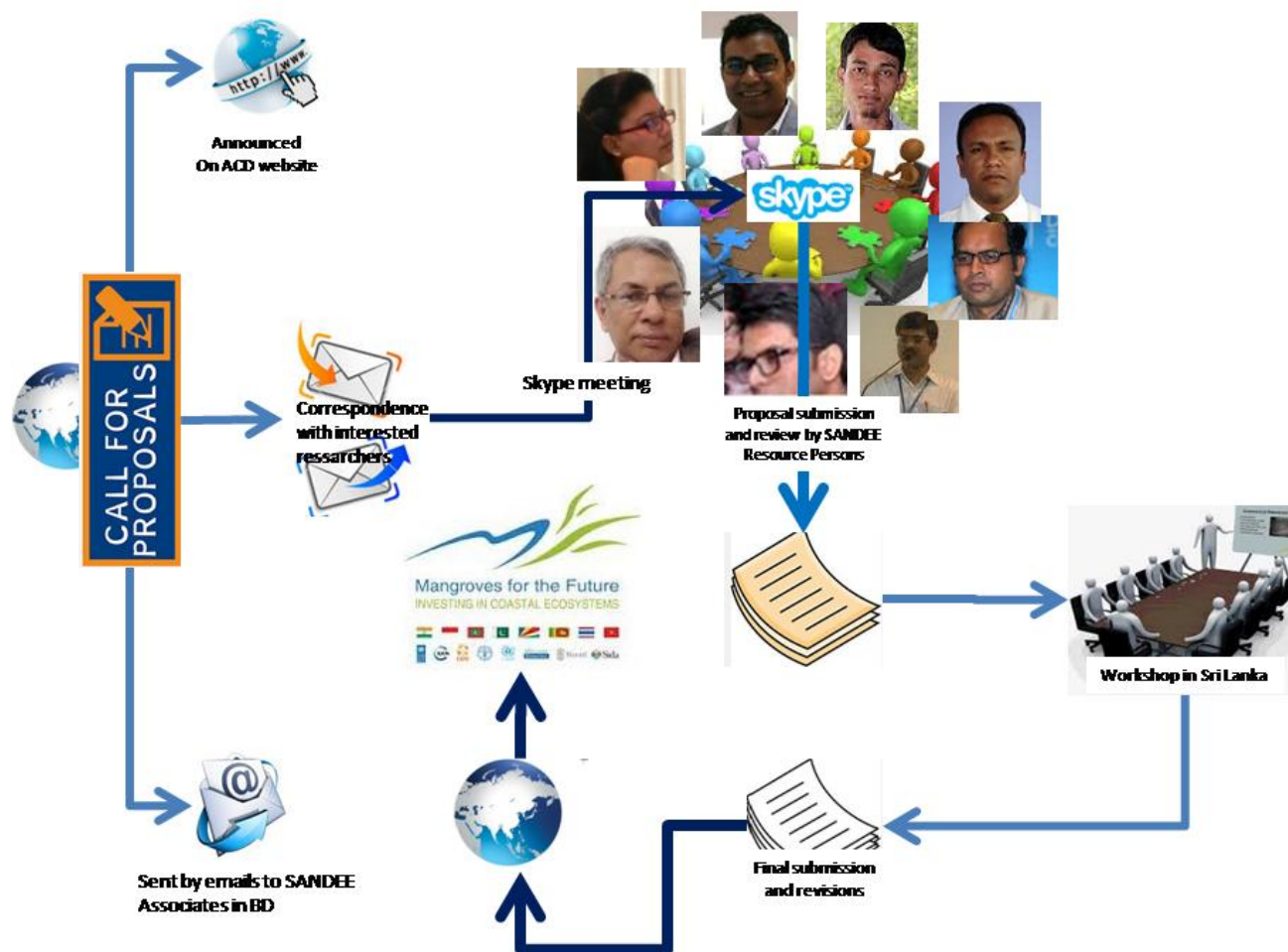
It was realized that “open call for research” as is will not fulfill the objective of the call for research and so ACD requested for a skype-conference call between IUCN Dhaka, IUCN Regional Office in Bangkok, ACD, and four potential researchers. The meeting took place on January 27, 2015. The meeting lasted for 2 hours from 12 Noon. The meeting was attend by

- Dr. A.K. Enamul Haque (coordinated the meeting)
- Mr Raquibul Amin (IUCN Bangkok)
- Mr. Estiaque Bari (Research Coordinator ACD)
- Dr. Ziaul Haider
- Dr. Mahfuzur Rahman
- Mr. Zakir Hossian Khan
- Ms. Suzana Karim
- Mr. Enamul Mazid Khan (IUCN Bangladesh)

Minute of the meeting is enclosed.

3. Follow up discussion and submission of proposal: After the skype meeting, ACD team coordinated with the researchers and through interactions, the final proposals were received by February 10, 2015.
4. Submitted research proposals were sent to Resource Persons for feedback and comments
5. Workshop at Sri Lanka was planned because of political disturbances in Dhaka on February 24-25, 2015.
6. Workshop program is enclosed.
7. Handbook for the Training Workshop was designed and soft-copy made available for participants of the workshop on February 23, 2015.
8. Details of the process are presented using a flow chart in the next page.

Schematic Summary Diagram for Selection of Research Proposals



Meeting Minutes (Skype meeting of January 27, 2015)

Dear All,

It was great to talk with you last week. Please let me know whether you have received all the papers that we promised to send you.

Just to recap, we are expecting four research proposals on the following topics. I just put the heading only. I would appreciate if you can add a few line on your respective topics as per our discussion.

1. Mud crab-livelihoods status of crab harvesters and policy recommendations
2. Whether ban on goran harvesting is working in Sundarban and policy recommendations
3. Economic feasibility of sylvo-fisheries in Chokoria Sundarban
4. Effectiveness of SGF in Shyamnagar and options for upscaling

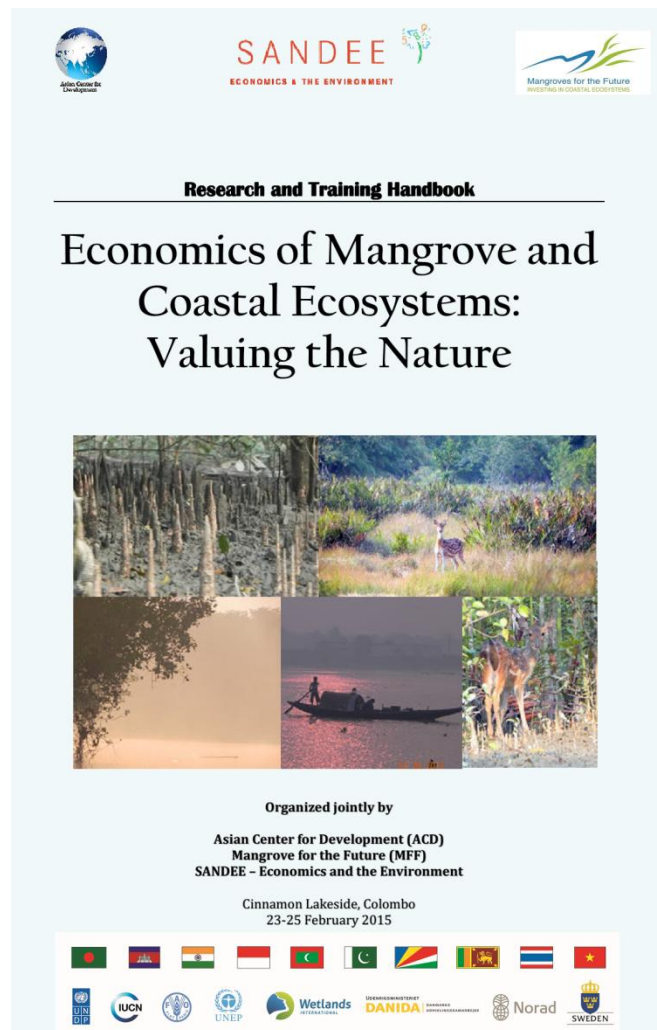
When you submit your proposal, please include a detail budget. Please note that the budget is USD 15-20k and time limit for completing the research is June 2015.

Deliverable 3: Workshop Design/Training Module

Asian Center for Development has prepared a handbook for workshop on *Economics of Mangrove and Coastal Ecosystem Services* prior to the Colombo workshop (24-25 February, 2015). Handbook includes workshop concept and objectives, schedule, design, documents of plenary discussion and presentations of potential grantees. *A separate email will be send sharing the handbook file from drop box (because of big file size)*

Here is the link of the Workshop Handbook: [Weblink – click here](#)

Note: Front page of the research and training handbook is given to justify the presence of the documentation.



Workshop Program in Colombo

24 February: Coastal Ecosystems, Mangroves and Livelihood

Schedule	Agenda item	Resource Persons
0830	Registration	
0900-0920	Inauguration - Welcome and scope of the workshop - Introductory remarks - Self-introduction by participants	Raquibul Amin Ananda Malawatantiri
	Plenary Presentation	Chair: Dr A.K. Enamul Haque
0920-1000	<i>Mangrove Ecosystem and Livelihood – Evidence from Indian Sundarban</i>	Dr. Santadas Ghosh Visva Bharati University, Santiniketan, West Bengal, India
1000-1040	<i>Economics of Regenerated Mangrove in India</i>	Dr. Saudamini Das, IEG, Delhi
1040-1100	Tea break	
1100-1130	Open Discussion Presentation by grantees and feedback from mentors	
1130-1230	<i>Mangrove ecosystem, mud-crab farming and value chain</i>	Dr. Ziaul Haider Khulna University, Bangladesh
1230-1330	Lunch Break	
1330-1430	<i>Effectiveness of Ban on Timber Harvesting from Sundarban</i>	Zakir Hossain Khan Economic Research Group
1430-1530	<i>Economic Feasibility of sylvo-fisheries in Chokoria Sundarban</i>	Dr. Mahfuzur Rahman Chittagong University
1530-1550	Tea break	
1550-1650	<i>Effectiveness of SGF in Shyamnagar and options for upscaling</i>	Ms Suzana Karim Dhaka University
1650-1700	Summary of the 1st day	Dr. Enamul Haque

25 February: Ecosystem Values and Survey Research Methods

Schedule	Title	Resource Persons
	Plenary Discussion	Chair: Saudamini Das
0900-0940	<i>Survey Techniques for Coastal Livelihood Studies</i>	Dr. Santadas Ghosh Visva Bharati University, Santiniketan, West Bengal, India
0940-1020	<i>Economics of River Ecosystem Services – case from Teesta River in Bangladesh</i>	Dr. A.K. Enamul Haque
1020-1040	Tea break	
1040-1120	<i>Issues related to Questionnaire Design</i>	Dr. Heman D Lohano SANDEE Secretariat
1120-1200	Open discussion	
1200-1300	Lunch Break	
1300-1400	One to one discussion with research teams Dr Ziaul Haider	Dr. Santadas Ghosh and Heman D Lohano Dr. A.K. Enamul Haque and Dr. Saudamini Das
1400-1500	Ms Suzana Karim Zakir Hossain Khan	Dr A.K. Enamul Haque, Raquibul Amin and Enamul Mazid Khan Siddique Dr. Santadas Ghosh and Dr. Heman D Lohano
1500-1530	Tea break	
1530-1630	Presentation by grantee Dr Ziaul Haider Ms Suzana Karim Dr. Mahfuzur Rahman Zakir Hossain Khan	
1630-1700	Feedback from participants and way forward	Raquibul Amin and Brian Furze

Technical Report on the Workshop

ACD-SANDEE-MFF has recently conducted a two-day workshop, 24-25 February, 2015; on Economics of Mangrove and Coastal Ecosystem Services at a local hotel in Colombo.



Jointly Organized by
Asian Center for Development (ACD)
South Asian Network for Development and Environmental Economics (SANDEE)
Mangrove for the Future (MFF)



- ❖ **In the opening day, 24 February;** The Country Representative of IUCN Sri Lanka Mr Ananda Malawatantri, SANDEE Advisor and CEO of Asian Center for Development Dr. A.K Enamul Haque and Raquibul Amin from Mangrove for the Future (of IUCN Regional Office in Bangkok) were present at the inaugural session. At the plenary session

Dr. Santadas Ghosh from Visha Bharti spoke on mangrove ecosystems and livelihood issues, and Dr. Saudamini Das from IEG, Delhi spoke on the Economics of regenerated mangroves in Gujraat. Participants from Maldives, India, Pakistan, Indonesia and host Sri Lanka were present at the workshop. Dr. Zaiul Haider, M Zakir Hossain Khan, Dr. Mahfuzur Rahman and Ms Suzana Karim presented their research proposal after the plenary session.

- ❖ **In the second day** of the workshop (25 February, 2015) Dr Santadas Ghosh spoke on “Survey Methods for Coastal Livelihood Studies”, Dr. A.K Enamul Haque spoke on “Valuation of River Ecosystem Services – case of Teesta River in Bangladesh” and Dr. Heman Lohano spoke on “Questionnaire Design”. After lunch session; four ‘one to one session’ among the potential grantees and research supervisors were held to discuss the nutshells of research ideas, methodologies and policy implication. All the participants were allowed to join and experience the robust discussion sessions. Later, in the closing session Dr. Brian James Furze, Senior Technical Advisor, South Asia, IUCN India, Ms. Maeve Nightingale, Global Coasts Focal Point for Mangroves and Communication (IUCN Regional Office for Asia) and Raquibul Amin from Mangrove for the Future (of IUCN Regional Office in Bangkok) have summarized the activities of two days workshop, express their observation about how the workshop fulfilled the objectives and future plans of MFF.

Note: The schedule of workshop is available in <http://acdonline.org/colombo-workshop-2015/>

In the inaugural session, Mr. Ananda Malawatantri in welcome speech has expressed great hospitality to all the participants from seven countries (Bangladesh, India, Indonesia, Maldives, Pakistan, Vietnam and Srilanka). In short speech, he has wished the success of the workshop and shown gratitude to be the host country of this important international conference on mangrove and costal ecosystem valuation.

Morning session has been chaired by Professor



A.K.Enamul Haque. He has briefed participants about the day long programmes and shortly highlighted the objective and essence of the conference. He stated, Colombo workshop will provide an opportunity of learning to National Coordinators and young researches from South Asian countries and hands on training to understand the economics of valuing the coastal and mangrove ecosystem services. The workshop will have plenary lectures from SAANDEE experts and presentation on research concept notes by potential grantees.



Dr. A.K. Enamul Haque, Chair of the sessions on Day 1

Expert team will be led by Professor A.K. Enamul Haque, Advisor to SANDEE and Director, Asian Center for Development. Other resource persons include – Dr. Santadas Ghosh, Associate Professor at the Viswa Bharati University in West Bengal, India and a SANDEE Fellow; Saudamini Das, faculty member of Institute of Economic Growth, Delhi and a SANDEE Fellow; and Dr. Heman D Lohano, from SANDEE Secretaria

Introduction of MFF initiatives:

Mr. Raquibul Amin has addressed, Mangroves for the Future (MFF) is a partnership-based initiative promoting investment in the sustainable development of coastal ecosystems. The goal is to conserve, restore and sustainably manage coastal ecosystems as key natural infrastructure that supports human well-being and security. The initiative provides a unique regional platform for concerted action in support of integrated coastal management, which includes all coastal ecosystems (e.g. coral reefs, estuaries, beaches, and wetlands).



Mr. Raquibul Amin is presenting brief about MFF projects

He also mentioned mangroves and the coastal ecosystems are in serious threat due to climate change and so MFF has been engaged with coastal communities to develop an alternative and adaptation strategy for people who are traditionally dependent on mangrove and coastal ecosystem for their livelihood. Later he addressed, MFF involved in initiating research works with a view to understand the values of the coastal and mangrove ecosystem in Bangladesh. MFF Secretariat in Bangladesh has engaged Asian Center for Development (ACD) – an organization affiliated with SANDEE, and a network environmental economist in South Asia to provide academic and research support.

Plenary Discussion:

One session of plenary lecture and discussion were held in each of two days. Professor A.K.Enamul Hauque, Dr. Santadas Ghosh from Visha Bharti, Dr. Saudamini Das from IEG, Delhi, Heman D. Lohano SANDEE Secretariat were plenary discussant. All plenary lectures were enclosed by discussion session.

Dr. Santadas Ghosh: Plenary [Lecture One](#)

In the opening day, Dr. Santadas Ghosh through ‘Mangrove Ecosystem and Livelihood – Evidence from Indian Sundarban’ has highlighted the image of Sundarban (Indian part) to all international participants. The lecture was full of images and explanation that helped everyone to understand the features of sundarbans. Some insights presented about islands of sundarbans were beyond any documentation. His last ten years of observation and work experience on sundarban provided raw and prudential information for everyone concern about mangrove and coastal ecosystem.



He stated, monsoon tidal system is most important for the sustainability of mangrove ecosystem. Sedimentation through river erosion, plant mutation in mangroves, indicators of mangroves’s maturity through tree’s growth, influx of insects and birds are iterated several times while establishing the ecosystem linkages of mangrove forest.

In livelihood section, Dr. Ghosh has talked in details on Mud crab and about local peoples economic incentives to involve in mud crab exercise. In addition, dynamics of labor migration in mangrove and coastal areas since British period has been highlighted to clear the understanding of participants about the changes have been already anticipated.

Figure 1 shows how overtime livelihood pattern changed among inhabitants of sundarbans in Indian side.

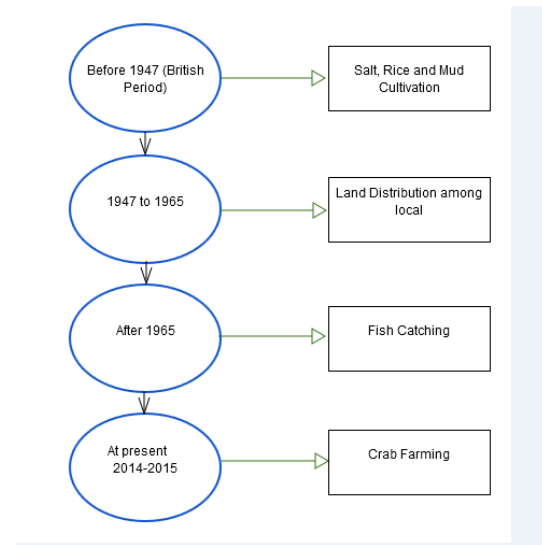


Figure 1: Livelihood dynamics of inhabitants of Sundarban (Indian part)

Present features of Indian part Sundarban islands:

1. Only 20% people are completely dependent on natural resources of mangrove.
2. Money inflows from government and NGO's.
3. Only 15 day's window yearly for honey collection (most vulnerable group).
4. Loss of bio-diversity is visible in some parts.
5. Prawn industry is eyeing investment opportunities in large scale.
6. Mangrove seeds are used as cooking materials.
7. Women and child workers are integrated parts of labor force.

Other issues like tiger conservation for mangrove ecosystem conservation and adaptation mechanism are also discussed shortly by Mr. Ghosh before the chair reminded him about the time limitation.

Dr. Saudamini Das: Plenary [Lecture Two](#)

Dr.Saudamini Das introduced planned mangrove regeneration through Economics of Regenerated Mangrove in India. Mangroves of Gujrat part is completely different in nature from Sundarban; provided participants an idea how mangroves are different from a region to another and valuing ecosystem requires diverse ecosystem knowledge on mangrove and

coastal area. Dr. Saudamini Das has highlighted few contents on planting mangrove such as flows of ecosystem services are limited, return on investment must be greater, level of fresh vs. salient water understanding is important. *She has used difference and difference model on her research and found out about 30% mangrove plantation survive in an annual year, thus it takes almost four to five years to address the impact of mangrove plantation.* The rate of survival depends heavily on the level of salinity. Besides, she has



Dr.Saudamini Das

discussed on three types of plantation (in Gujrat) are going on: a) Existing forest, b) Mud flats and c) Degraded land; Societal direct dependency (provisioning services) is absent in Gulf of Kutch, Saurashtra but minimal to moderate (only fuel wood and fodder) in Gulf of Khambhat (South Gujarat); comparison of natural vs. planted is possible only through regulating services a) Contribution to fishery and b) Coastal protection.

Finally, with twenty minutes of lively question answer session the plenary session for day one comes to end where clarification on few issues have been discussed among participants and plenary discussers.

Dr. Santadas Ghosh: Plenary [Lecture Three](#)

In the second day, Dr. Ghose has conducted a plenary lecture on ‘Survey Techniques for Coastal Livelihood Studies’. Throughout the discussion he has mentioned about several conventional survey techniques. Beyond that he has mentioned, understanding communities and lifestyle of local inhabitants should be the first priority for any researcher. How mangrove resources have been used by local farmers need to be recognized before anyone to conduct research. Collecting information might not be straight forward and sedate observation on their social, economic and cultural dependency on forest might help researcher to come up with how they value mangrove resources. Building repo with locally respected and powerful personnel always make a researcher’s life easy in such coastal lands. He emphasized to take enumerators among local

inhabitants and build a strong network through research completion, that always helpful in post research survey and future in general.

In the question answer session, Dr. Ghosh has been asked to share the problems he faced during study. He replied, trust deficit among researchers and community people is the most important while sampling for primary survey. He emphasized, inferring observation from focus group discussion and key informant survey required insights on local knowledge; usually it is hard to infer accurately just by collecting the cases and drafting inside the air conditioned office room.

A.K. Enamul Haque: Plenary [Lecture Four](#)

Professor Haque in his plenary lecture has rigorously highlighted on ways of economic valuation of ecosystem/environmental/nature resource through ‘Economics of River Ecosystem Services – case from Teesta River in Bangladesh’. He emphasized literature review and field observation to understand the dynamic changes of natural resource that is immensely important specially to river ecosystem or costal ecosystem studies. Second most important component is to logically establish the theoretical framework of the research keeping the objective in mind. Identifying the benefits people enjoy from natural resources and in absence of what would be the associate costs is also important prior to sampling design and conduct survey. Identify different dependent communities on natural resource and include them in sample in order to get maximum variation.

How people value ecosystem depends on the use and non-use values of inhabitants. Conventional provisioning, supporting, regulating and cultural value might not proportionately valued to each communities. In the research on Teesta river, he has shown how a river has tamped to extract provisioning services. Other values, in parts of Bangladesh teesta are not observed on that extent. In addition study covers, how teesta river has contributed to reduce the cost of cultivation in parts where water is available compare to scarce. How it contributes towards livelihood generation of two most dependent communities’ farmers and fishermen?

In the question answer session, Ms. Indrilla asked what economic values teesta contribute are in the Indian part and how it is different than value the research estimated. In response to her question, Professor Haque mentioned similar study is also held in parts of India. In Sikkim, it is

mostly cultural value. In west Bangal, regulatory and provisioning values are dominating while in Bangladesh provisioning values are dominated. The Q/A session has continued for ten minutes further in clarifying the research outcomes.

Dr. Heman D. Lohano: Plenary [Lecture Five](#)

In his lecture he has discussed on 'Issues related to Questionnaire Design'. The overview of research process has been rigorously highlighted starting from formulating a topic and research objectives followed by reviewing the literature, formulating a research design, selecting a sample, data collection (using Questionnaire), data analysis, ensure objectives have been accomplished, Writing/Presenting your research and process of recycling.



Dr. Heman D Lohano

In addition, he highlighted all nice steps of questionnaire:

1. Define the target respondents
2. Decide the data/information required
3. Choose the method(s) of reaching your target respondents
4. Decide on questionnaire content
5. Develop the question wording
6. Put questions into a meaningful order and format
7. Check the length of the questionnaire
8. Pre-test the questionnaire
9. Develop the final survey form

Several important questions have been raised after this session. Participants questioned, what is the best questionnaire technique in holding the primary survey? What should be the sample size of the study and how to do the sampling? What are the difference between household survey and industrial survey? What are the standard procedures of training of enumerators in questionnaire survey and so on?

In response to the questions, Dr. Heman has received complementary assistance for other resource personnel. All the resource personnel agreed, the best questionnaire is one that serves the objective of the research, procedures will be dependent on the availability of the data, access to information and nature of study. Trust building in the minds of the respondents is most important; length of the questionnaire should be small avoiding repeated and redundant questions. In industrial survey, usually there require lot of permission of the authority, respondent or authority have to pay high opportunity cost rather than households respondents. There is no so called standard procedure of training enumerators, but rehearsal of questionnaire delivery and fill up must be taken place in the training session.

Presentation of Research Proposals:

After the plenary lecture and discussion session in day one, all potential grantees Dr. Zaiul Haider, M Zakir Hossain Khan, Dr. Mahfuzur Rahman and Ms Suzana Karim respectively presented their proposal followed by a revised proposal presentation in last session of day two addressing the comments, detail scrutinizes from 1st presentation and one to one session with resource persons.

Professor Ziaul Haider (Potential Grantee)

First Presentation:

“Mangrove ecosystem, mud-crab farming and value chain” – Dr. Ziaul Haider

Dr. Ziaual Haider has presented several dimensions of mud-crab farming and value chain linkages in this proposal. Mostly, by refereeing towards secondary literatures focused provisioning services of mangrove and coastal ecosystem and highlighted how local inhabitants are dependent on costal ecosystem to exercise income generating activities. He mentioned Prevailing literatures demonstrate that mud crab contributes for the actors engaged in mud crab value chain in income generation, employment creation and livelihood support.

Focusing on three major research objectives i) To analyze the mud crab value chain ii) To analyze the socio-economic condition of actors across the mud crab value chain and iii) To assess the economic value of mud crab oriented coastal mangrove ecosystem service, he illustrated his research in multi dimensional issues.

To analyze five important segments in mud crab value chain: i) wild crab catchers, ii) middlemen, iii) fatteners, iv) mud-crab nursery operators and v) depot owners; he introduced multinomial logit model to determinants of Market Preference Outlet choice of the wild mud crab catchers?

In addition, he mentioned about production function approach to analyze factors influencing the socio-economic status and livelihood of the actors in the mud crab value chain. Economic Valuation of Mud Crab as a Provisioning Service of Coastal Ecosystem through net present value, technical efficiency of crab fettering and nursing were, Economic Valuation for Conservation of Mud Crab Species through contingency valuation, Future Threat Assessment contingent valuation method.



Dr. Ziaul Haider presenting his proposal presentation

In other parts of discussion the researcher discussed on survey technique that he is going to apply in the study.

Discussion:

All the resource person have suggested Professor Zia to reduce the objectives of study and make it more focus to analyze the value chain and sustainability of wild mud crab collection. More briefly, Dr. Heman D Lohano has recommended willingness to pay is less interesting while committing research on livelihood opportunities. He also suggested rather than technical efficiency why the system is not properly working are more interesting to look at. Professor Haque stated, people may not be interested to the net present value of ecosystem as final value is already there to understand the situation is. Rather in depth analysis of socio economic status would be more interesting. Differentiate between market chain and value chain is important, the contents highlighted is more explained the market chain rather value chain. Dr. Santadas Ghosh stated, the research objective is unclear in relation to mangrove.

One to one discussion with research teams:

Sustainability of the mud crab collection gets the prior concern in the discussion. Resource persons in these regard have suggested holding effort harvest analysis. In addition, value chained should include (effects on livelihood) different channels of marketing size of crab, Handling and grading, vertical integration in process.

Final Presentation:

Mud crab is an emerging source of livelihood for the people in the coastal belt of the south-west region of Bangladesh. Wild mud crab is a provisionary service of coastal mangrove ecosystem. This study will focus on value chain analysis of mud crab. It will also accomplish a comprehensive analysis on wild mud crab considering its sustainability in collecting from coastal mangrove ecosystem based on Gordon-Schaefer bio-economic model. It will try to estimate maximum sustainable yield and maximum economic yield of wild mud crab harvesting. Moreover, it will focus on potential threats on costal mangrove ecosystem for continuous extraction of this natural recourse and corresponding policy recommendations.

Objective of the Research:

To analyze the value chain and sustainability of wild mud crab collection in the south-west costal region of Bangladesh. To address this objective, the study will attempt to answer the following two research questions.

❖ Is wild mud crab collection sustainable?

For analyzing the sustainability of wild mud crab, we will use effort-harvest function of Gordon-Schafer (1954). It is a bio-economic model which deals with both biological and economic data. It will give the massage of sustainability and future threat of mud crab collection form coastal mangrove ecosystem of Bangladesh.

❖ What is the value chain of wild mud crab?

This research question tries to find out how value is added at different stages of the chain. It will cover the stages of mud crab value chain including wild mud crab collection, value addition at

each stage, distribution of collected wild mud crab at different distribution channels, grading of crab according to weight and gender and so on.

Dr. Mahfuzur Rahman (Potential Grantee)

First Presentation:

“Economic Feasibility of sylvo-fisheries in Chokoria Sundarban” – Dr. Mahfuzur Rahman

In order to estimate research objectives i) To evaluate the economic feasibility of silvo-fisheries in CSB, ii) To test people’s willingness to accept mangrove aquaculture in CSB, iii) To compare the climate resilience of settlers’ livelihood based on existing and alternative scenarios, iv) To suggest if the idea is extendable to other mangrove areas given the success of the present study.



Dr. Mahfuzur Rahman is presenting his research proposal

Theoretical Framework mentioned in the presentation:

- ***Risk of yield loss analysis:*** Following OLS model will be estimated to measure the potential risk for yield or income loss (Y_L) attributed to factors (X_i) affecting yield in each scenario (Ha el al, 2013).

$$Y_L = \alpha + \delta_i D_i + \beta_i X_i + e_i$$

Where, D_i is a vector of dummies for each land-use type.

- ***Benefit- Cost analyses:*** B-C analyses will be conducted for each of the alternative land uses following Gammage (1997).
- ***Climate resilience livelihood analysis:*** An OLS model will be estimated to test the sensitivity of income and income sources given the prevalence and intensity of disasters

$Y_P = \alpha + \beta_i X_i + e_i$ where, Y_P is the income from source P , and X_i is the number or intensity of climate change disasters.

In other parts of discussion the researcher discussed on survey technique that he is going to apply in the study.

Comments:

Professor Haque suggested, economic feasibility test will provide the partial picture but to get the complete idea financial feasibility should be included in the research. In this regard, identifying economic and financial components is important. On the other hand, Dr. S.Das has suggested considering survival rate of planted mangroves, growth rate, land availability and distribution alongside property right. The regulating benefit of mangrove forest is only possible if the forest is clustered for a reasonable range. In addition, Mr. Enam Khan has pointed out towards three interest groups Government, Leaseholders and illegal settlers and suggested to consider each of their economic incentive and response towards the change in forest the study going to prescribe.

One to one discussion with research teams

In the discussion session, all resource personnel have suggested to examine the feasibility of sylvo-fishery in Chakaria sunderban- through examines the financial or economic feasibility or both. In the cost benefit analysis, it is suggested to take care of cost of production, cost of ecology, cost of livelihood and loss on output, revenue inflow from fishing and other agricultural cultivation. As Vietnam experts have already done a similar study Mr. Raquib have suggested looking the procedure and data available. Ms. Indrilla have suggested land holding should be the component of sample selection and expect the research should come up for policies for interim period when regeneration of forest will take place.

Final Presentation:

In the final presentation Dr. Mahfuz has revised the research objective and attach a justification of research

Objective of the Research:

1. To examine the financial feasibility of sylvo-fishery in Chakaria Sunarban
2. To evaluate the economic feasibility of sylvo-fishery in Chakaria Sundarban
3. To test the ecological feasibility of integrated sylvo-fishery in Chakaria Sundarban

Justification of the research:

- 1) Restoring CSB will be a great success to enriching country's bio-reserves and to make the country more resilient to climate change impacts.
- 2) Monoculture of shrimp has been proven detrimental to mangroves worldwide due to severe bacterial infection and reduced yield. If the integrated farming of organic shrimp with mangrove is found economically feasible, the shrimp industry will experience a revolution since Bangladesh has the single-tract largest mangrove in the world.
- 3) Not only just shrimps, if CSB can be restored, it will ensure a wide range of non-market intangible environmental benefits, a big sink for carbon, and a great shield against climate change impacts.

Zakir Hossain Khan (Potential Grantee)

First Presentation:

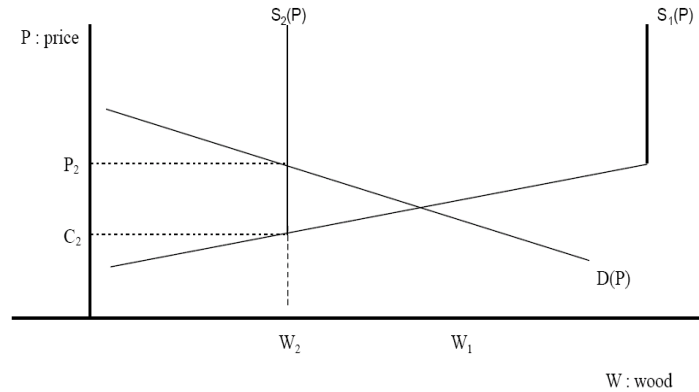
“Effectiveness of Ban on Timber Harvesting from Sundarban” – **Zakir Hossain Khan**

He started the presentation with statistical figures and history of Mangrove Reserve Forest and Coastal Plantations from secondary researchers to provide an overview of dynamics of change in forest resource and area. The objectives of his study were primarily-

Objective 1: Estimate the overall volume of timber consumption including illegal logging and assess the distribution of benefits among actors



Mr. Zakir Hossain Khan is presenting his research proposal



Conceptual framework of the overall volume of harvest would be below –

S_0 = Supply of Goran trees before the ban

S_1 = Expected Supply to be zero after imposing the ban

S_2 = Supply of Goran trees at current even after ban

P_0 = Auction price of Goran trees before the ban

P_2 = Price/Collection cost of Goran trees after the ban

$S_2 = f(P)$; Where $P_2 = (\text{Payment to collector} + \text{Transport cost} + \text{Unauthorized Payment to officials (forest+ law enforcing agencies)})$ loggers/manufacturers/traffickers will secure excessive profits or rents equal to the dash-marked area in the curve (which is $W_2[P_2 - C_2]$).

Policy issues are -

$S_2 \geq S_0$, Whether Supply of Goran trees increases after the ban

$P_2 \geq P_0$ Whether the price/cft is greater than the auction price

Mr. Zakir further emphasized, to understand the timber commodity chain, information about a) what is the production process, b) which species are targeted and what volumes are extracted, c) where does extraction occur, and d) who is involved in the various stages of the value chain from extraction to consumption, how are benefits distributed, why does illegal extraction persist, etc. In addition, to analyze timber value chain and benefits distribution involved and payments will be identified.

Objective 2: Assess the effectiveness of the efforts to tackle the problem or response by governments to protect illegal logging and also assess the level of illegal logging and

Objective 3: Identify the drivers (policy, process and practices) those are influencing for illegal timber logging from Sundarban

To gather information on the factors those are influencing for illegal timber logging several face-to-face interviews with a range of staff of FD, traders, saw-millers, retailers, auditors and representatives of certification schemes. Key informants survey of illegal loggers using a semi-structured questionnaire. In order to obtain further insight into socio-political dynamics and other factors that might influence illegal logging, informal interviews will be undertaken with local FD field staff members and politically influential persons who have substantial influence on neighboring forests and local communities.

One to one discussion with research teams

In one to one discussion resource persons have more emphasized on policy negotiation of timber logging. Understanding the value of ban effectiveness of timber cut towards conservation of sunderban was the focal discussion point. Understanding the supply chain of timber industry and value each stage generates were also discussed. How efficiency in management and implementation can protect sunderban from illegal logging. Furthermore, survey techniques and methodological discussion were discussed before the closing of the discussion.

Final Presentation:

In revised presentation the specific objectives set by Mr. Zakir Hossain Khan was-

Specific objectives of the study are-

1. Assess the extent of the effectiveness of the ban on timber logging to conserve the Sundarban
2. Examine the efficiency of existing management and implementation process to restrict illegal logging

Final Comments:

To prescribe policy negotiation, estimating the maximum willingness to provide bribe by illegal harvester.

Suzana Karim (Potential Grantee)

First Presentation:

“Effectiveness of SGF in Shyamnagar and options for up scaling” – Suzana Karim

She has highlighted about the MFF objective to implement small grant facilities and briefly discussed about SGF. She mentioned, ‘Small Grant Facility (SGF)’, a project funding mechanism overseen by the NCB in each MFF member country to support local communities to cope with changing conditions as well as increasing resilience through improved land use and better natural resource management. Projects are awarded primarily to organizations working with coastal communities on priorities identified in each country’s NSAP, especially priorities in relation to the Programmes of Work. Grant amount up to \$US25,000 for maximum of 18 months period.

Primarily research questions were-

- How much the MFF-SGF projects have increased the resilience of households and communities to the climate change situation in coastal region?
- How much the MFF-SGF projects have increased the socio-economic status of project beneficiaries?
- What is the contribution of the projects in improving the scenario of biodiversity conservation in the mangrove areas?
- What is the potential of the projects to become self-sustained and options for scaling up, if any?

Possible indicators for sustainable livelihood:

- ❖ Income diversity
- ❖ Increased income
- ❖ Increased well-being
- ❖ Improved food security
- ❖ Reduced pressure on forest resource extraction



Ms. Suzana Karim is presenting her research proposal

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❖ Sustainable use of land

One to one discussion with research teams:

Resource Personnel have suggested the researcher to identify the intending and un-intending benefits of project. Researcher the suggested to focus on the impact evaluation the small grants projects rather than output evaluation. They have appreciate the development indicators the researcher has indentified and made revised few of them. In the discussion session, Mr. Raquibul Amin and Mr. Enam Khan in several occasions helped to clarify the understanding about the project works and objectives.

Final Presentation:

In the final presentation Suzana Karim has revised the research objective as such-

Objective of the study:

Given this backdrop, the overall objective of the study is to analyze the impact of Small Grant Facility (SGF) program in terms of improving the resilience of ecosystem dependent coastal community people of Bangladesh against natural disaster and other climate change factors. The study is aimed towards analyzing the effectiveness in terms of improving the outcome indicators of the program beneficiaries as well as to its surrounded communities. The study is also interested to explore the extent to which these programs have affected the well-being of indirect beneficiaries as well as whether there are any unintended benefits have occurred. Hence the specific objectives are:

1. To assess the effectiveness of SGF on generating supplementary livelihood options
2. To assess the sustainability of these livelihood options
3. To assess the impact of SGF on capacity building and climate change adaptation strategies
4. To identify the impact of the program on indirect beneficiaries
5. To identify any unintended effects emerged due to program implementation
6. To assess potentiality of projects to become self-sustained and options for scaling up, if any.



List of Participants at the Workshop in Sri Lanka

	Name	Institution and Country
1	Dr. Santadas Ghosh	Visva-Bharati, Santiniketan, INDIA
2	Dr. Saudamini Das	University of Delhi, INDIA
3	Muaz Adnan	Mangroves for the Future, UNDP Maldives, MALDIVES
4	Dr. Heman Das Lohano	SANDEE, PAKISTAN
5	Shadiya Fathmath	MALDIVES
6	Roby Fadillah	INDONESIA
7	Estiaque Bari	ACD, BANGLADESH
8	Dr. Mohammad Mahfuzur Rahman	Chittagong University, BANGLADESH
9	Dr. Mohammed Ziaul Haider	Khulna University, BANGLADESH
10	Muhammad Zakir Hossain Khan	Economic Research Group, BANGLADESH
11	Suzana Karim	Dhaka University, BANGLADESH
12	Dr. A.K Enamul Haque	Asian Center for Development, BANGLADESH
13	Archana Chatterjee	Mangroves for the Future, IUCN India, INDIA
14	Radhakrishnan Gopinath	INDIA
15	Dr. Brian James Furze	IUCN India, Aus (INDIA based)
16	Dr. Indrila Guha	Vidyasagar College for Women, Kolkata, INDIA
17	Badar Un Nisa	PAKISTAN
18	Syed Ghulam Qadir Shah	Mangroves for the Future, IUCN Pakistan, PAKISTAN
19	Enamul Mazid Khan Siddique	Mangroves for the Future, IUCN Bangladesh, BANGLADESH
20	Raquibul Amin	Mangroves for the Future, IUCN Asia, BANGLADESH (TH based)
21	Maeve Nightingale	UK (TH based)
22	M M A S Maheepala	National Aquatic Resource Research and Development Agency (NARA), Sri Lanka
23	Pradeepa Korale Gedara	University of Peradeniya,
24	Indunil Sannasooriya	University of Colombo,
25	Dr Anada Malawatantri	IUCN Sri Lanka,

Final Selection of Proposal

STEP 1:

The final selection of the proposals was made in several steps based on the following process;

1. Presentation at the workshop by the researchers
2. Comments from resource persons and from IUCN officials present at the workshop
3. Revisions made by the researchers in their final presentations

STEP 2:

A meeting was held after the workshop with researchers in Colombo informing them that the finalization of the selection process will depend on

1. Submission of the research proposals by the researchers based on comments received at the workshop
2. Discussion of ACD with the Chief Conservator of Forests, Department of Forests, Ministry of Environment and Forests after receiving the revision of the proposals from researchers.

STEP 3:

A meeting with the CCF, DoF, MoEF was held on March 15, 2015 with Md Yunus Ali, CCF, Department of Forest on the proposals. Members present were:

1. Md. Yunus Ali, CCF, Department of Forests
2. Dr A.K. Enamul Haque, ACD, Bangladesh
3. Mr. Enamul Majid Khan, IUCN, MFF Secretariat

Dr. Haque presented an oral brief on all the four proposals (listed below). Mr Ali agreed on the research proposals and suggested that the proposal by Zakir Hossian Khan be amended to include the demand side of the study. According to him

- Transformative shift in the forest management from CRPC rule to more participatory approach is needed to protect forests
- Livelihood options are important considerations for forest conservation
- Developing a people's friendly forest administration is important for the department to conserve forests.

He, therefore, suggested that the study on consequences on timber harvest ban shall be examined from the demand side at the household who demand firewood from the forests. He also suggested looking into the ICS (improved cooking stove) programs of NGOs in reducing demand for firewood, in this study.

STEP 4;

Researchers were asked to submit the final revision of the proposals, once they received feedback on their submission from resource persons.

Revised Final Proposals

The revised final proposals are available using the following links.

1. [*Economic Feasibility of Sylvofishery in Charakria Sundarban, Bangladesh*](#)

Principal Researcher: Dr. Mahfuzur Rahman, Chittagong University, Chittagong

2. [*Value Chain and Sustainability of Wild Mud Crab Collection: A Provisionary Ecosystem Service in the South-west Coastal Region of Bangladesh*](#)

Principal Researcher: Professor Ziaul Haider, Khulna University, Khulna

3. [*Examining timber harvest moratorium and its effectiveness: Case of Sundarban Forest*](#)

Principal Researcher: Mohammed Zakir Hossain Khan, Economic Research Group, Dhaka

4. [*Analyzing the Effectiveness of MFF-SGF Program on Household and Community Resilience to Climate Change in Bangladesh*](#)

Principal Researcher: Suzana Karim, Dhaka University, Dhaka

Financial Statement

Budge for IUCN MFF on Agreement

Sl No.	Activities	Unit	Total Unit	Rate-BDT	Total BDT	ACD Expenses	Balance
1	Develop Training Program	Person/Day	10	35,100.00	351,000.00	210,600.00	140,400.00
2	Resource Person Cost for conducting training course on environmental Valuation	Person/Day	4	35,100.00	140,400.00	140,400.00	-
3	Final Selection of proposal for research grants	Person/Day	1	35,100.00	35,100.00	35,100.00	-
4	Supervision of Small grants (3 Resource person 8 day for each resource person	Person/Day	24	35,100.00	842,400.00	204,880.00	637,520.00
5	Progress Report workshop (3 Resource Person)	Person/Day	3	35,100.00	105,300.00		105,300.00
6	Final Report Presentation	Person/Day	3	35,100.00	105,300.00		105,300.00
7	Workshop Cost	No	2	500,000.00	1,000,000.00	414,406.80	585,593.20
8	Editing Cost	Person/Day	9	15,000.00	135,000.00		135,000.00
9	Working Paper Publication	No	3	12,000.00	36,000.00		36,000.00
10	Management cost for ACD	Month	6	40,000.00	240,000.00		240,000.00
11	Research Coordinator	Month	6	40,000.00	240,000.00	80,000.00	160,000.00
B	Sub-total (without VAT and AIT)				3,230,500.00	1,085,386.80	2,145,113.20