



USAID | **BANGLADESH**
FROM THE AMERICAN PEOPLE

INTEGRATED PROTECTED AREA CO-MANAGEMENT (IPAC)

FIRST HAND INFORMATION- IMPACT ON
MOKOSH BEEL DUE TO INDUSTRIAL
POLLUTION AND ITS EFFECT ON LOCAL
COMMUNITY

May 2010

This report is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents of this report are the sole responsibility of International Resources Group (IRG) and do not necessarily reflect the views of USAID or the United States Government.

INTEGRATED PROTECTED AREA CO-MANAGEMENT (IPAC)

FIRST HAND INFORMATION- IMPACT ON MOKOSH BEEL DUE TO INDUSTRIAL POLLUTION AND ITS EFFECT ON LOCAL COMMUNITY

21 October 2009

Venue: Mokosh Beel, Kaliakoir

Organized By: Integrated Protected Area Co-Management (IPAC) Project

USAID Contract N° EPP-I-00-06-00007-00

Order No : EPP-I-01-06-00007-00

Submitted to :

USAID/Bangladesh

Prepared by:

Integrated Protected Area Co-Management (IPAC) Project

Submitted for :

International Resources Group (IRG)

With subcontractors:

WWF-USA, dTS, East-West Center

Environmental Law Institute, Epler-Wood International

World Fish Center, CIPD, CNRS, CODEC

BELA, Asiatic M&C, Oasis Transformation

Module Architects, IUB/JU



International Resources Group

12 11 Connecticut Avenue, NW, Suite 700

Washington, DC 20036

202-289-0100 Fax 202-289-7601

www.irgltd.com

Table of Contents

ABSTRACT	1
INTRODUCTION	2
OBJECTIVE.....	2
REFLECTION FROM FEW REPORTS.....	2
METHODOLOGY	3
FINDINGS.....	3
INTERVIEW 1.....	3
<i>Mr. Shoukat Imran, Chairman, Chapai</i>	3
SEMI STRUCTURED DISCUSSION- RESOURCE MANAGEMENT GROUP.....	4
MOUCHAK	4
INTERVIEW 3.....	6
<i>Mr. Shamsul Alam, Fishermen (30 years)</i>	6
<i>Mr. Nurul Islam, Fishermen (40 years)</i>	6
INTERVIEW 4.....	7
<i>Ms. Moziram Begum- 43 years</i>	7
<i>Ms. Aleya Begum- 43 years</i>	7
CONCLUSION AND RECOMMENDATION	8
ANNEX - 1.....	10
INTERVIEW ONE	10
<i>Mr. Shoukat Imran, Chairman, Chapai</i>	10
SEMI STRUCTURED DISCUSSION	10
<i>RMO, Mouchak</i>	10
INTERVIEW 3.....	10
<i>Mr. Shamsul Alam, Fisherman- 30 years</i>	10
<i>Mr. Nurul Islam, Fisherman- 40 years</i>	10
INTERVIEW 4.....	10
<i>Ms. Moziram Begum- 43 years</i>	10
<i>Ms. Aleya Begum- 43 years</i>	10

Abstract

Mokosh Beel is undergoing a lot of industrial pollution according to the local community at Kaliakoir district. The community members believe that the current condition of the Beel requires attention, and is having impacts on local people's health, agriculture, fish population, livestock and local trees. They are constantly taking initiatives to reduce the industrial impact on Mokosh Beel, and seeking for possible solutions.

The local community believes that removing the industries or closing them down is not the solution to reducing the pollution caused by it. Industries are helping their economy, and providing work in their district. However, they feel that it is necessary for the industries to adopt cleaner mechanism and install Effluent Treatment Plants (ETPs). Since, some of the industries have ETPs already, and are not operating those to reduce costs; they have suggested that the government should make it strictly compulsory for all industrialists to operate ETPs while running their industries.

The report below provides direct messages from local people to urge the necessity to take actions to reduce the impact of industrial pollution and improve the living condition of people. This study is a pre-survey, and messages from it will be used to amplify the local community's initiative to protect their Mokosh Beel, and make it cleaner, habitable and rich in its aesthetic value once again.

Introduction

The Mokosh Beel¹ is located 25 km to the Northeastern part of Dhaka and is directly affected from industrial effluents. Local people are well aware about this situation, and are demanding necessary attention so that they along with their children are able to live a healthier life. The Resource Management Organizations (RMO) under Integrated Protected Area Co-Management (IPAC) Project have been taking constant initiatives to demand their right to cleaner Mokosh Beel that once existed in the past producing ample crops and fish.

Realizing the urgency and local effort, IPAC decided to provide the RMO some technical support with concrete information. RMO members, other local men and women experiencing the impacts of pollution in Mokosh Beel were interviewed to bring out their stories. The communication materials produced from these interviews will focus on the information provided by the local people to empower their effort in raising awareness to save their Mokosh Beel.

Therefore, this paper projects the problems mentioned by residents of Mokosh Beel that will be provided to the RMOs in written format through communication materials to encourage and empower them. Utpal Dutta, Governance Specialist, IPAC and Ms. Sumaiya Firoze working for Communications, Outreach and Applied Research at IPAC visited Kaliakoir to talk to local people and understand their perception.

Objective

From the introductory portion, it can be well understood that the objective of this paper is to:

- To gain an understanding of the existing condition
- To provide practical reflection of Mokosh Beel's condition to IPAC authority
- To gather messages from local people that will be directly reflected on the leaflet to raise awareness on Mokosh Beel by RMOs

Reflection from Few Reports

According to a report by MACH in 2001, industrial effluents from Ratanpur *Khal*/ canal get discharged into Mokosh Beel and then flows into the Turag River which in turn connects the Buriganga and Shitaylaka rivers. (Report on MACH-Kaliakoir Pollution Project. 2001.)

Industrial pollution in Mokosh beel may be responsible for adverse effects on the health of local people and this is confirmed by a study on "Human Health and Industrial Pollution in Bangladesh" conducted by Stockholm Environment Institute, DFID, Bangladesh Center for Advanced Studies (BCAS) and University of Leeds. The diseases that the authors have specified in the research include skin diseases, diarrhea, dysentery, respiratory illness, anemia and childbirth complications.

An undergraduate student's thesis on "Water Quality Assessment of Mokosh Beel and Industrial Impacts on Agriculture and Fisheries in Mokosh Beel Area" show that the agriculture and fish production are possibly declining over the past 10 years due to industrial pollution. Also, it shows there is a probability that the health of local people is possibly deteriorating due to the same reason. (Huq, Tahmid. 2008)

¹ Beel: A depression of static water formed in a low lying area (Wikipedia, 5 Oct 09)

Methodology

Two IPAC staff members traveled down to Kaliakoir and conducted this study. This was a small study and can be considered as a pre-survey to understand the current condition of the impact of Mokosh Beel on local people due to industrial pollution.

The study included:

- Qualitative study- research papers mainly (mentioned in the Literature Review)
- Personal Interviews- Chairman, two fishermen and lastly two women
- Semi-structured discussion-RMO members
- Inspection of the Beel

The interviews and discussion comprised of general questions, actions taken by local people, their plans and recommendations. Please refer to Annex 1 for questions asked to different groups or individual persons.

Findings

Interview 1

Mr. Shoukat Imran, Chairman, Chapai

We have already talked with higher authorities regarding this matter. We had meetings with Bangladesh Environmental Lawyers Association (BELA) and have also invited industrialists to discuss the matter. Prominent figures such as Mr. Abdullah Abu Syed have visited our area to look at our condition, and we have also raised awareness at that time, but have received no response.

Most factories have Effluent Treatment Plants (ETP), but they are not operating it. We are not allowed to go inside the industries, and if inspectors or people try visiting the industries, they are kept waiting at the gate. By the time they are allowed inside, the ETPs are in operation, and so no action can be taken against the industrialists.

Inspectors are also bribed by the industrialists with or without their consent. Some are forced to take money. Envelops are put into their pockets so that they keep quiet about matters that may raise problems for the industrialists.

Yesterday (20 October 2009), the fish in the Mokosh Beel were seen floating dead. This usually happened during a later part of the year, but is taking place now before the water level decreases in the dry season.

We don't get to see *Chital* anymore. The population of *Tengra*, *Gulsha*, *Belay* and *Boal* seems to have decreased, and *Pabda*, *Chital*, *Kali*, *Baush* and *Mini* are increasing after MACH introduced them into the beel.

Laws are not being implemented properly in this area. Tree tops (e.g *Boroi* tree) are dying as a consequence to air pollution. No steps have been taken yet to reduce the impact of pollutants in the *beel*.

A Central Effluent Treatment Plant is required where the government must be responsible for monitoring. Industrialists should also contribute to build it and for its operation.

Industries must have a NOC (No Objection Certificate) from the Department of Environment. This should be restricted in this area at present because of the high number of existing industries.

We cannot do any form of farming in our area such as poultry and fishing. The fish stink here. We cannot carry out any movement because our economy may suffer, and we do not want to create that situation.

Monitoring group will not work properly here because they will be bribed anyway.

We need to raise awareness about this issue among the higher authorities including the government and industrialists. So far, the industrialists sent some of the lower level representatives in some of our meetings where they are not in the power to provide any decision.

The Standing Committee comprising of 7 to 11 members are not working. They can be mobilized with capacity build up training programs. Local people do not have technical understanding of the impacts on Mokosh Beel. We need some people here who can help us with such matters.

It is not us who need awareness; please make the higher authorities aware. We are already aware about the situation here.

Semi Structured Discussion- Resource Management Group

Mouchak

Number of participants: about 11 people

The discussion started with the participants informing IPAC staff members about the problems they are facing due to the industrial pollution in Mokosh Beel. Later onwards, it was proceeded with some questions to gain further information.

An aged man said, “*Pani porishkar holay, shob kichu porishkar*’ meaning if the water is clean, everything is clean.

“Frogs can’t even survive here. People won’t be able to live here if steps are not properly taken,” said another aged participant.

Another participant said, “During 1973, the first mill was built here called Rahim Textiles. We initiated the movement since then, but nothing happened. We informed the higher authority about our condition here, and the news passed on to the Minister even, but the result was opposite. The higher authorities started selling off portions of the Beel since it has degraded a lot along with the lands around it. The lands are not fertile anymore.”

“We cannot do agricultural farming near Mokosh Beel anymore. We cannot even eat the fish from the Beel. It smells of Kerosene. We don’t have the luck to eat our own beel’s fish,” informed a farmer.

“We used to drink the water from the Beel earlier. There was a superstition earlier that Mokosh Beel’s water cures stomach diseases,” said a middle aged participant.

“We do want the industries here for the benefit of our people, otherwise how will they survive? However, the industries are making it difficult for us to live. They need to use Effluent Treatment Plants (ETPs),” added a participant.

Many participants jointly mentioned that “An ETP owner gets encouraged not to use it from a non ETP owner or an ETP owner who doesn’t use it.”

The surveyors asked about the condition of agriculture in comparison to the past 20 years since there were many aged participants present.

Aged farmers in the RMO said, “Before 1972, we used the water from the beel to irrigate our crops. We did not have to invest much. Then, we started cultivating *Iri* and used deep tubewells for irrigation. We used to have good harvest at that time. In 1962, the irrigation pumps were introduced since the crops started dying at times due to drought. Tubewells were also used during drought. Now those tubewells do not work because of pollutants.”

“There are no crops in the surrounding areas of the Beel. 5 mund in 35 acres of land! We had good harvest even 10 years back.”

“We had a lot of fish 10 year back, *ru*, *katal*, *boal*, *hilsha* (occasionally), *chital*, *shrimps*, *pabda*, *betoshi* etc.” Now, there’s no fish. They are dying. If some are introduced, they don’t survive. We used to find a lot of *koi* during the month *Ashar*. Now, there’s no fish. We eat from the ponds.”

When asked about the health condition of the local people, a pharmacist said, “If people eat the food near the pond, they suffer from *cholera*. They also suffer from skin diseases such as *Khujli* and *Pachra*. There are a lot of mosquitoes because of the pollutants.”

Another participant said, “Children have more asthma problems. Our eyes burn because of the environment here.”

In terms of other impacts of Mokosh Beel:

Participants informed, “The gold turns black here. Women infertility has increased. Higher number of people is dying due to heart strokes. Vegetables such as *Lau* sweat first and then die.”

“You can see the impact if you visit this area after *kartik*.”

“Earlier, when we were young, we used to collect water lilies from the beel to cook for food. Now, we buy it from the market to cook because the water of the beel is so polluted that we don’t dare to eat anything that grows or lives in it.”

In terms of observation and more impacts, the participants mentioned:

“The water level used to go down in *kartik*- during the dry season. It gets lower earlier. Our hens and ducks die.”

“The whole area is smellier during the morning. Mangoes rot here. Bad eggs are produced in the hatcheries. Even, the hens and ducks die after sometime.”

“Number of local birds has decreased. The wood in the boats decay or rot soon. There’s no *shapla* and *shaluk*. No *panifol* are found.”

“Earlier, drought used to take place here. Now, the Beel doesn’t dry up. There’s a black, thick layer of 6 to 7 inches that you can see here during the dry season.”

“There’s no fish here. *Tengra* fish die in 2 months if introduced into the Beel. Other fish die during the rainy season.

“There are 223 industries out of which 6 to 7 have ETPs according to the laborers. The farmers have changed their livelihood from farming to day laborers. There are 372 households here. Not even 25 have cows.”

“Nowadays, people don’t even want to select girls for marriage in our area. They say that the environment of this area is so polluted that it is not worth selecting a girl from here.”

“Stealing rate has increased.”

“We are not having any problems because of the industries. It is because of the damage that the industries are causing to the environment. If we cannot live here, what is the use of having the industries here?”

“5 out of 100 people used to buy food from the market here. Now, 95% try to buy food if they have enough money.”

“The number of houses has increased also.”

“We don’t see lotuses here anymore. There are no *Nikna*, *Makna* also. They have become extinct in our area.”

“It seems that there is no oxygen in the water.”

At this point, the participants were asked about how the situation could be improved:

We need to purify the water. *Panir opor naam jibon, amader hoye gesay moron*- The other name of water is life, but for us it is death.

“We don’t want the mills to close down. We want the mill owners to take measures. The water can be diverted downstream for better diffusion.”

“The government needs to make the industrialists understand that they need to use ETPs otherwise their licenses should be cancelled.”

Interview 3

Mr. Shamsul Alam, Fishermen (30 years)

Mr. Nurul Islam, Fishermen (40 years)

Mr. Alam said, "Fishing takes place for 2 to 3 months here per year. I have been a fish farmer for the past 10 years and a share cropper. I earn Tk. 50-60/- per day. There's *Tengra, Nola, Puti and Taki* in this beel. Earlier, the water was clearer. We could catch fish using fishing rods. Now, it is difficult for the fish to survive in this water. They don't survive. If the weather is a bit windy, we get to see dead fish in the beel."

"My cow died because of this beel three years back. I kept it tied near the bank, and it drank the beel's water due to which it died."

"I live very near to the Beel. The pungent smell causes diarrhea in our family. It is unbearable to live in our houses, and we have no choice to relocate since we are very poor. Our skin turns red. In our area, There are no crops or cows."

Interview 4

Ms. Moziram Begum- 43 years

Caritas, FRUG and EC member

Ms. Aleya Begum- 43 years

Caritas member

Both the participants said, "We have been living here since birth. The water was clearer in the past. We could wash our cows and utensils in the beel. Now, we don't even think of using the water for cooking. There are no snails, fishes, lotus or shells in the Beel for the past 5 to 7 years now."

"Cows cannot give birth to their babies. If calves are born, some don't have eyes and some die."

"Pregnant women give birth to weak or dead babies. Some babies are born blind."

"No fruits are growing here for the last 4-5 years. The Jackfruits and Star fruits (Kamranga) rot before ripening."

"We get skin diseases if we use the beel's water."

"We make our cows drink tubewell water."

"Our children fall sick, have eye problems etc."

"During morning, the whole area smells extremely bad whereas it is supposed to be fresher than most parts of the day."

"New diseases are taking place such as skin sores."

"We don't even think of bathing in the Beel."

At this point, the female participants were asked whether they will let their children use the Beel's water like they did when they were young:

“No way, we can’t even think of allowing our children get into the beel for bathing like we used to do during our childhood.”

They were also asked whether they collected the floating fish from the Beel the previous day:

Ms. Aleya Begum said, “We own portions of the Beel. I did not even dare to get down into the water to collect the fish that were still alive, but were floating. In the market, we check whether the fish is from Moskosh Beel or not. We don’t eat its fish.”

Both Participants said, “Our cows suffer from sores if we feed them hays brought from lands near Mokosh Beel. There’s no crop around the areas near the Beels. The bottom layer of the crops near the banks rot before it even ripens.”

“We had good harvest last year because the crops were irrigated with tubewell water.”

“*Nikna, Panifol* and *Shapla* have become extinct from our area.”

“In the future, our children cannot live here.”

Conclusion and Recommendation

It is quite evident from this pre-survey that local residents including local elites, women, aged, middle aged and young men firmly believe that industrial pollution in Mokosh Beel is affecting their agriculture, fish population in the beel, their farm animals, aquatic & terrestrial biodiversity and their social lives. They are well aware that it is important to have the industries because the livelihood of many local inhabitants is dependent on it. Moreover, it adds to their economic prosperity. However, they also understand that if the industries continue polluting, more farmers in their area will turn into laborers because of agricultural crop failure and fish population depletion.

It has become natural to the local community that nearly all the fish will die in the Beel once a year during the dry season. They do not realize that this may be happening because the concentration of heavy metals and other pollutants increase when water level decreases.

Industrialists are well aware about their contribution to Mokosh Beel’s pollution which is why they send representatives with no decision making power in the meetings called by the local elites or RMOs.

Considering all these information, some of the recommendations suggested by them and felt by the surveyors are:

- According to the High Court of Bangladesh, it is compulsory for all industries to set up ETPs within June 2010. Now, the Government needs to be very strict about the installation of ETPs and must ensure its regular operation. More initiative from the Department of Environment to re-enforce Environment Conservation Act 1995 and Environment Conservation Rule 1997 on the industries and ensure that they use Effluent Treatment Plants (ETPs).
- The DoE needs to share Environmental Impact Assessment report with the local community and receive feed back from them.
- Combined monitoring group from government and local community members need to be formed to monitor the industries about the installation of ETPs and also for its operation. Parliamentarian standing committee must be informed about the situation of the Mokosh Beel and its impact on local community so that they can be involved in taking necessary policy related actions.

- More initiative from the Department of Environment to motivate, influence and enforce industries to use cleaner technologies.
- Buyers need to make industries adopt environmentally friendly techniques, ETPs and code of conduct.
- A roundtable discussion needs to be organized to bring all concerned parties together to discuss this matter, and form agreements/bindings.
- A national campaign needs to be organized to aware the higher authorities about the necessity to conserve Mokosh Beel and similar water bodies undergoing immense pollution.
- More ponds must be excavated to provide clean water to local people for drinking and irrigation purpose to reduce ground water extraction.

In conclusion, it must be mentioned that the government needs to take actions regarding this matter, and should strictly deal with industrialists who are polluting the environment. The industrialists are not being environmentally just, and are making local people lose their right to cleaner, safer and natural water. It is really impressive to see the local community members raising their voice for their right to better environment. The government and concerned organizations need to take necessary actions.

Annex - 1

Interview One

Mr. Shoukat Imran, Chairman, Chapai

1. What have you already done to raise awareness on Mokosh Beel pollution?
2. Is there any incident that proves the ecosystem of Mokosh Beel is extremely affected?
3. What sort of fish is seen in the Beel now?
4. What problems do you think exist regarding Mokosh Beel?
5. What are your recommendations?

Semi Structured Discussion

RMO, Mouchak

1. So, no farming takes place here?
2. What type of farming used to take place here in the past?
3. Are there any health impacts?
4. Are there any other impacts that you would like to inform us about?
5. What can we do to improve the situation?

Interview 3

Mr. Shamsul Alam, Fisherman- 30 years

Mr. Nurul Islam, Fisherman- 40 years

1. What was the condition of the Beel earlier before the Beel got so polluted?"

Interview 4

Ms. Moziram Begum- 43 years

Caritas, FRUG and EC member

Ms. Aleya Begum- 43 years

Caritas member

1. How long have you been living here?
2. What type of changes has taken place here over the past years?
3. Will you let your children use the Beel's water?
4. We heard that many fish died yesterday in the beel. Did you collect any like other people?

References: Will be added