



Living Polders: Dynamic Polder Management for Sustainable Livelihoods, Applied to Bangladesh

Field Visit to Beel Pakhimara, Beel Bhaina and Beel Kukshia: Water sampling, soil sampling and meeting with different stakeholders (Fifth Field Visit)

Conducted during: 16th to 25th January, 2018



**Institute of Water and Flood management (IWFM)
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General Information

Project Name: Living Polders: Dynamic Polder Management for Sustainable Livelihoods, Applied to Bangladesh

Date of Visit: 16th to 25th January, 2018

Visited Places

- Khulna University, Tala Upazila in Shatkhira (17th January)
- Kobadak River, Spring Tide Sampling, Shatkhira (18th January)
- Beel Bhaina, KII with local farmers and Sub-assistant Agricultural Officers of Bherchi and Bharat Bhaina Union, Jessore (19th January)
- Beel Bhaina, Water and Soil sampling, Jessore (20th January)
- Beel Kukshia, KII with local farmers, Jessore (21st January)
- Beel Kukshia, Water and Soil sampling, Jessore (22nd January)
- Beel Pakhimara, Water and Soil sampling, Shatkhira (23rd January)
- Kobadak River, Spring Neap Sampling, Shatkhira (24th January)
- Khulna University (25th January)

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Introduction

With the continuation of water sample collection,

This field visit was aimed

- (i) To collect water samples during spring and neap tide from Kobadak River,
- (ii) To meet with local agricultural officers officials of Beel Bhaina and Kukshia
- (iii) To get an idea of local peoples thought about sediment management inside the beel.

Description

17th January: We have been to Khulna University to collect all the necessary equipment and left for Tala, Satkhira. After reaching, we did a reconnaissance survey of the sampling locations and Beel area for suitable equipment setup.

18th and 24th January: To see the variation in physical parameters of river water in spring and neap tide, 42 samples were collected each day at one hour interval from 9.00 AM to 10.00 PM. To understand the vertical distribution of the sediment concentration, sampling was done at 0.2, 0.6 and 0.8 depth of water level from water surface. Sampling location for spring is 22.6675750, 89.2618699 and for neap is 22.667978, 89.261570. For Spring tide, the higher maximum and minimum water level was found 7.4 m and 4.7 m, whereas for neap tide these are 6.1 m and 4.4 m, at the mid-stream.

19th to 23rd January: Beel Bhaina and Beel Khukshia were visited to know the sedimentation situation, sediment nutrition and agricultural practices in the Beels where TRM was previously operational. KII with the agricultural officers and local farmers was done and some water and soil samples were also collected from different points.

On 23rd January, soil and water samples were collected from Beel Pakhimara.

Discussion

In Beel Pakhimara, it is found that local people do agriculture in dry season where land level is elevated to a considerable height. In Beel Bhaina, farmers do agriculture and fisheries in dry and wet season, respectively. The land level is below the internal-beel-canal bed so that farmers usually pump out the water to dry out the land for dry season agriculture. In beel Khukshia, they do aquaculture all the year round by making compartments though TRM operations is undergoing.

Concluding Remarks

All the events have gone as planned. The samples collected from Kobadak River and Beel were sent to Khulna University for laboratory testing. Images of the field visit were uploaded to the archive link: <https://tinyurl.com/5thVisitImage>



Figure: Main canal inside beel Bhaina.



Figure: Agriculture in beel bhaina.



Figure: Shallow water irrigation in beel Bhaina.



Figure: KII with farmer.



Figure: Soil profile in beel Bhaina



Figure: Soil Sample collection



Figure: Water sample collection.



Figure: Agriculture on the compartment dyke in beel Bhaina.



Figure: KII with the Sub Assistant Agricultural officers.



Figure: Harvested fishes from Beel Khukshia.



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Figure: Beel Khukshia.



Figure: Agriculture on the compartment dyke and aquaculture in Beel Khukshia.



Figure: River depth maintenance operation in Beel Khukshia.



Figure: Silted up land in Beel Pakhimara.



Figure: Agriculture in Beel Pakhimara.

Field Visit Plan

Date	Particulars	Remarks
16.01.2018	Travel to Khulna	
17.01.2018	To Khulna University, then Tala Upazila	
18.01.2018	Sediment and Water Sampling	
19.01.2018	Beel Bhaina (present condition and KII), to Khulna	
20.01.2018	Beel Bhaina (Soil and water sample collection)	
21.01.2018	Beel Khuksia (present condition and KII)	
22.01.2018	Beel Khuksia (Soil and water sample collection)	
23.01.2018	Khulna To tala (Soil and water sample collection)	
24.01.2018	Sediment and Water Sampling	
25.01.2018	Travel to Khulna, then Dhaka	

Contact List

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