



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

Field Visit to Beel Pakhimara and Laboratory Analysis: Water Sample Collection, Soil and Water Sample Analysis (11th Field Visit)

Conducted during: 9th – 18th August, 2018



**Institute of Water and Flood management (IWFM)
Bangladesh University of Engineering and Technology (BUET)**

General Information

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

Date of Visit: 9th – 18th August, 2018

Visited Places

- Khulna University and Tala Upazila in Shatkhira (9th August)
- Kobadak River and Beel, Spring Tide Sampling, Shatkhira (10th August)
- Khulna University Laboratory (11-14th August)
- Tala Upazila in Shatkhira (15-16th August)
- Kobadak River, Spring Tide Sampling, Shatkhira (17th August)
- Khulna University and leaving for Dhaka (18th August)

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Introduction

To understand the sediment loads in the Bangladesh delta, it is important to understand the variation of the sediment loads at the different points of the delta in different season of the year. This field visit is the continuum of collection of water and sediment data. In this visit we have collected monsoon season samples.

This field visit was aimed

- (i) to collect water samples during spring and neap tide from Kobadak River,
- (ii) to collect soil samples from Beel Pakhimara and Kobadak River.
- (iii) to do laboratory analysis of the collected soil and water sample in Khulna University.

Description

Water Sample Collection in Kobadak River (August 10th and 17th)

Spring and Neap tide samples were collected on 10th and 17th August, respectively, for 15 hours in each tidal cycle at a one hour interval from 8.00 AM to 10.00 PM. To find out the vertical distribution of the sediment along in the river samples were collected at varied depth, 0.2, 0.6 and 0.8 of water height from water surface. Sampling location for spring is 22.667835, 89.2615855 and for neap is 22.667964, 89.261482 in the Kobadak river.

In both cycles, 268 water samples were collected. All the necessary set ups and reconnaissance were done before the sampling day.

Regional Sampling (August 10th and 17th)

For the delta level suspended sediment sample collection, four teams of Khulna University students collected 40 samples in total for Spring (10 august) and Neap (17 August) tide. The sampling frequency for regional sampling was 3 hours from 8 am to 8 pm.

In other five locations local contacts of the project have collected the samples in same manner and samples were sent back to Khulna University.

Soil Sample collection (15th and 16th August)

To understand the nutrient content of the deposited sediment inside the Beel 19 sediment samples were collected from river and beel.

Laboratory analysis (11-14th August)

From 11th to 14th August, in 'Soil, Water and Air Research Lab' with the help of Ms. Marjina Akter, 70 water samples were filtered and prepared to get oven dry weight of the suspended sediment. The soil samples were left to dry in open air.

Discussion

Due to the late start of monsoon rainfall we have considered the season as monsoon.

Concluding Remarks

All the events have gone as planned. The samples collected from Kobadak River and Beel were sent to Khulna University for laboratory analysis. Images of the field visit were uploaded to the archive link: <https://tinyurl.com/11thvisitLP>

Photos



Image 1: Collection of water sample at Kobadak River



Image 2: Water sample with sampler



Image 3: Sediment deposition measurement inside the beel.



Image 4: Collection of soil samples inside the beel



Image 5: Preparation for filtration of Water samples in Khulna University



Image 6: Filtration of Water samples in Khulna University



Image 7: Filtration of Water samples in Khulna University



Image 8: Filtered sediments ready to dry in oven at 104 degree Celsius



Image 9: Soil samples kept to let it dry

Annex

Field Visit Plan

Date	Descriptions	Remarks
8 th August, Wednesday	Leaving for Khulna	
9 th August, Thursday	Arriving Khulna , Collecting Equipment, To Tala	
10 th August, Friday	Spring tide sampling	
11 th August, Saturday	To Khulna University	
12 th August, Sunday	Lab analysis of Water samples	
13 th August, Monday	Lab analysis of Water samples	
14 th August, Tuesday	Lab analysis of Water samples	
15 th August, Wednesday	To Tala, Soil sample collection from River	
16 th August, Thursday	Soil sample collection from Beel	
17 th August, Friday	Neap tide sampling	
18 th August, Saturday	To Khulna and Dhaka	

Contact List

Name	Address	Number
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