

total area of the wetland became water body. Not only low land it also submerged the major portion of the high cultivate land. 60% of the wetland is covered by water over the year. The rest of 40% is also covered by water for about 10 months of the year. Aman production is totally destroyed. Water also shrunk the Boro cultivated land. About 80% of Boro cultivation reduced for waterlogging.

### **Government initiatives to address waterlogging**

The government has taken some steps to solve this problem. Dredging the Atharobaki and Chitra Rivers is the big government project in this area (Figure 5). Most of the respondents are concerned about the project activities. Although the local government institutions have taken some steps like building earthen dams and cutting channels, they created many dams around the wetland that may stop water flows from the surrounding wetlands. They made five channels which may discharge water from the wetland.

**Figure 5:** Government steps to solve waterlogging problem

### **Are the government initiatives sustainable?**

When this question was asked to the local farmers, 76% of them gave negative voice. But most of them said that “these activities will solve the problem for a short time. After 1-2 years we will face this problem again”. They argued dredging rivers and wetlands was an expensive option and drained public money into inappropriate solutions. Besides, dredged soil is often piled off along the riversides and within few months the soil slop down on river bed. Such activities hamper riverine and wetland ecosystems. On the other hand, rest of 24% of the respondents agreed to dredge works and canal cut in immediate actions but they also claimed that we looked for a sustainable solution. When it was asked about what the sustainable solution is, they simply replied that we should accumulate both scientific and local knowhow but we should sincerely consider phenomena such as river morphology, wetland and riverine ecosystems, local lives and livelihoods.

### **Conclusion and recommendations**

Exploring the best adaptation practices are time demanded with the prevention and mitigation of waterlogging in the region (Awal, 2014). Local government institutions (LGIs) like Union Parishad and even Upazila Parishad have few options to solve the issue. However, both LGIs take some immediate actions to help affected people. Nonetheless, the concerned Upazila Parishad pursued to the central government taking permanent solutions through the relevant departments. An appropriate coastal zone water management policy can guide the local level practitioners taking sustainable solutions.

Farakka Barrage reduced the water flow of Padma River and her tributaries (Kawser & Samad, 2016) and that has a direct impact on wetlands of southwestern Bangladesh like Bhutiar Beel. Water velocity of the Chitra and the Atharobaki Rivers is very low which increases the riverbed siltation. Finally, interrupts on water discharge from Bhutiar Beel creates waterlogging. The study has already highlighted that a substantial number of farmers ware losses their cultivable lands in Bhutiar Beel. Local initiatives especially by the LGIs failed to solve the problem. Thus, continuous and sustainable channelization of river flows is a main solution with the special attention to societal issues like local lives and livelihoods. Appropriate policies such as coastal zone water management and wetland management will guide local practitioners to implement sustainable community based projects and programmes. Then we can hope the communities, particularly 6,000 marginal farmers in Bhutiar Beel protect their cultivable lands from waterlogging.

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