

Wetlands in Himalayas: Securing services for livelihoods at the time of climate change

Description of Relevant activities and collaborating partners:

As a transitional ecosystem between terrestrial and aquatic ecosystems, wetlands support high biodiversity both aquatic and terrestrial life forms. With their specific hydrological functions, they control floods by slowing down water movement, reducing water velocity and sedimentation, and promote aquifer replenishment. Wetlands are also important for society as many of their function has proved to be useful for human. Despite the economic and biodiversity value of wetland ecosystem, and understanding such value globally, wetlands are in immense pressure and under constant degradation.

Wetland ecosystem are, in particular in Hindu Kush Himalayas, is under researched. As a result, detail information on wetland resource, their hydrological linkages, are not much available. Even, the wetlands listed in the Ramsar sites of global importance are under having limited information. In addition, the local level dependency of communities on these wetland resources, ecosystem dynamics and functions, are poorly understood. We aim to address these gaps in our research and pilot activities.

In our all pilot sites, there is a clear evidence of declining wetland resources, as result, the services that they generate for communities. We identified number of driver of change negatively impacting on these resources. In order to address these drivers of change, we suggest solution. Our work also suggest a need of proper management plan for these wetland integrating within development plans.

Our major activities includes, 1) Research on understanding key drivers of change, and wetland-livelihoods interface, existing adaptation strategies 2) Understanding existing policy gaps, and 3) support stakeholders in developing participatory wetland management plan.

Collaborative partners include 1) Yunnan Institute of Environment Science (YIES) in china, Aaranyak and IIRM in Assam state, India, WWF Pakistan in upper Indus Pakistan.

Key Results:

Our research and pilots indicate the need of proper management of wetlands resources while understanding indigenous and customary practices. Customary practices are, if considered, in overall conservation and development planning process, this not only ensure local ownership but also very costs effective way of managing these resources.

There are number of drivers of change in wetlands ecosystem. Impact of climate change, and other drivers of change are collectively impacting on wetland resources. In all cases, impact of climate change needs to further assess.

A comprehensive participatory management plan for Maguri Mottapong wetland is under development, based on the findings of our research, in collaboration with local administration. Once this management plan is approved, local administration will integrate within local development plan.

In our pilot in Yunnan province, China, a participatory approach is under discussion at the country level for further wetland planning and management.

Based on our research and pilots works in all selected sites provides important learning to manage wetland ecosystem for sustainable supply of ecosystem services.

Description of lessons learned and Good practices

1. Wetlands are, in most cases, considered a common property. There is very limited investment and research in wetland management, despite the fact that wetlands are high biodiversity hotspots.
2. In Maguri Mottapong wetlands in Indian state of Assam, the existing jurisdiction over managing this important wetland is not much clear. A home of many native aquatic species, and migratory birds, this area is under threat. Need immediate action with comprehensive participatory management plan. A process for developing participatory management plan in collaboration with local administration is underway.
3. In Yunnan province of China, our research and pilot indicates the need of community participation for overall management of wetland resources. Chinese Government has invested a lot of resources to renovate, and restore many wetlands to maintain ecological integrity of Erhai Lake. If benefit sharing of these resources is ensured to local communities, this would be more cost effective.
4. In Nepal, wetlands are considered important source of livelihoods, especially for indigenous communities. Understanding traditional and indigenous /customary practices in wetland management is crucial for overall adaptation, and supply of ecosystem services.

Description of lessons learned and Good practices

Wetlands in Himalayas are critical high biodiversity and important source of water recharge, however, are not well researched. There is clear data gap on hydrological cycle, possible impacts of climate change on these wetland resources. Key challenges include,

1. Stakeholders' engagement in wetland planning process. Wetlands are mostly cross sectoral, and there is a need for multisectoral approach and interventions in managing these wetlands resources. However, majority of programs and activities are intersectoral in all three countries.
2. Jurisdictional issue: In particular to wetland in Assam of state of India, we observed the issue of different government institutions claiming jurisdiction over the wetlands. Present legislative instrument shows the Department of Revenue is responsible for the wetlands, however, there are other departments such as Forest department, which also claim their jurisdiction as the wetland is part of buffer zone of Dibru Saikhuwa biosphere reserve.
3. Ecology vs economy: Wetlands provide many ecosystem services to local livelihoods. Overharvesting of these services, in particular fisheries, put these wetlands at a risk in order to maintain allowable harvest.
4. Lack of Scientific data

Planned next step:

1. In India, comprehensive participatory management plan will be submitted to the district administration for their approval. Once approved by the Government, activities planned for Magui Motapong wetlands will be streamlined within the Government plan and programs.
2. In China, continue engagement with local government authority if participatory model can be upscaled in other wetlands.
3. In Pakistan, a PES schemes will be discussed with local communities and authorities if incentive for wetland ecosystem services can be institutionalized.

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