

## Nature-based solutions to our societal challenges

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It is, however, logical to ask if NbS are sufficiently effective as well as cost-effective when compared with typical grey or engineering solutions. Studies show that, to tackle riverine floods, NbS, such as slope revegetation and wetland protection or creation, are more effective than engineering solutions, such as check dams, artificial water storage alternatives, and buffer tanks. From an economic point of view, an analysis of 52 coastal protection projects in the USA showed that, when wave height is low and water depth is high, salt marshes and mangroves are two to five times cheaper than the engineering options.

NbS, however, suffer from some challenges. For example, NbS interventions take time to give us their full benefits. Because of limited evidence of NbS effectiveness and certain misconceptions, we see inadequate policy and political commitments as well as limited funds blocking the scaling up of proven NbS. Conflicts over NbS sites are reported due to land tenure issues. In absence of effective governance, we see

“greenwashing” in the name of NbS depriving the local people from their traditional rights. Unequitable benefit-sharing from new NbS projects can also exacerbate pre-project tension, instability, and conflict situation.

Although NbS offer long-term, multiple benefits and are cost-effective and easier to maintain, it is not that only such ecosystem-based approaches or green solutions can act alone. It is also not that all engineering or grey solutions should be gradually replaced by NbS. Our core development philosophy should be to harness ecosystems' services and processes as much as possible. In many cases, especially in a country like Bangladesh, we need to mix green (biodiversity), grey (engineering), and blue (water) solutions to bring the best out of these three options. A good example of such mix can be seen in Gabura Union of Satkhira which was severely affected by Cyclone Aila back in 2009. In 2014, with Union Parishad and local people, CNRS and IUCN established a mangrove plantation on the chars in front of the polder protecting a part of



NbS offer both human and biodiversity benefits, not just one. PHOTO: RASHED KABIR

▲ **We can start a national dialogue by identifying how much of our annual climate budget is spent on NbS.**

PHOTO: MD TOWHIDUL ISLAM

Gabura. Seven years on, this grey-green combination continues protecting the people and their livelihoods from cyclones and storm surges.

Although the concept NbS was coined recently, Bangladesh has been embracing NbS since long. Floating agriculture, for example, has been a traditional practice in the greater Barishal-Faridpur region for a couple of centuries. We have been creating green belt through coastal afforestation since 1966. We have been practicing community-based sustainable management of wetlands and forests through development projects since the 1990s. In the past decade, our short-term plans (e.g., Seventh and Eighth Five-Year Plans), medium-term plans (e.g., Perspective Plan of Bangladesh 2021-2041, Mujib Climate Prosperity Plan Decade 2030), and long-term plans (e.g., Bangladesh Delta Plan 2100) have integrated ecosystem-based approaches

into our development pathways. Among these, the Mujib Plan is apparently the first-ever national document that explicitly mentions and extensively adopts NbS as a concept.

A comprehensive analysis of the effectiveness of NbS in Bangladesh, however, was absent until November 2021 when a systematic review was published in a peer-reviewed journal titled Frontiers in Environmental Science. The analysis led by the University of Oxford identifies 19 major NbS interventions implemented in a wide range of ecosystems: coast, inland wetland, terrestrial forest, agroforestry and homestead gardens, cropland, and urban areas. Most extensively studied NbS in Bangladesh are conservation agriculture and protection and restoration of mangroves, terrestrial forests, and wetlands.

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**এ চালান**



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