

Restoring Stream Network is critical for Ecological Restoration

Enhancing Synergies between Restoration and Hydrological Services for Improving Food and Water Security Strategies



A majority of the land users of peninsular India are small & marginal farmers with semi-subsistence dependence on rain-fed agriculture.

Their incomes and nutritional intakes are precarious by variability & vagaries in water availability, non-farm income and food prices. The region also faces risks from extreme climate events such as temperature & rainfall variation.



A socio-ecologically responsible restoration pathway is critical for maintaining healthy riparian habitats & aquatic biodiversity outside of Protected Areas.

Ecologically insensitive alterations to riparian habitats and poorly designed restoration strategies adversely impacts biodiversity conservation, long-term food security, and other ecosystem services. This harms the well-being of agro-pastoral communities and small and marginal farmers.

Degradation of riparian habitats directly impacts local livelihoods dependent on

Food

Agriculture

Freshwater

Biodiversity along riparian zones

It also disturbs the carbon capture and storage ability of such ecosystems.

River ecosystems are a natural and cost-effective carbon fixer, also known as blue carbon and play a critical role in the global carbon cycles. Often the banks of rivers are also habitats for a variety of grasses, encompassing nutrient-rich floodplains and sand deposits.

These are critical to maintaining the fertility of nearby agricultural lands and for biodiversity conservation.



Evidence and scientific knowledge on the trade-offs and synergies is critical.

Understanding of hydrological cycles and trade-offs and synergies with afforestation and reforestation will enhance better land use management. This helps adapt to climate vulnerabilities, and water stress. Thus, ensuring crop productivity and local livelihood security.



Applying an infiltration-evapotranspiration trade-off hypothesis

will provide the most scientific and socio-ecologically suitable pathways for restoration of degraded agricultural lands and riparian habitats. Thus, ensuring ecological suitability and supporting nutritional requirements of the local people.

