

# 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.

