Identification of Win-Win Adaptation Options through Adaptation Metrics and Integrated Adaptation Decision-Making Frameworks

Executive summary

Measuring the effectiveness of adaptation to climate change has assumed great significance as huge amount of resources are being made available for climate change adaptation. It is important for various stakeholders to direct these resources for achieving efficient adaptation and avoiding maladaptation. Identifying adaptation effectiveness indicators is the first step towards measuring the effectiveness of adaptation actions at the local level. Keeping this in view, the project entitled 'Identification of win-win adaptation options through adaptation metrics and integrated adaptation decision making frameworks' was implemented in the Gangetic basin with the collaboration of national level partners Bangladesh Centre for Advanced Studies (BCAS) in Bangladesh, The Energy and Resources Institute (TERI) in India, and International Centre for Integrated Mountain Development (ICIMOD) in Nepal. The study was funded by the Suishinhi (S8) of the Ministry of Environment through Ibaraki University, Japan.

The India case study was conducted in the drought prone areas in the Gangetic basin of India. The approach involved identifying local indicators and integrating them into the analytical framework of the Global Adaptation Index (GaIn). The index developed with the local indicators has been termed as Local Adaptation Index (LaIn). A broad set of indicators were identified from the literature reviews and regional consultations. These indicators were further put through national and community level consultations for identifying the final set of indicators that can be integrated into the LaIn computation.

The study was carried out in the drought prone areas of Kanpur Dehat District of Uttar Pradesh. The prominent adaptation option in vogue in the area is construction of water harvesting structures, such as check dams and contour bunds. The surveys have revealed that there is a need to introduce improved irrigation systems, soil management practices, and improved drought forecasting systems to go hand in hand with the water harvesting practices. The respondents felt that the indicators, such as increased water availability, duration of water stress, access to and availability of food, percentage of income used for health care, and food self-sufficiency will better reflect the effectiveness of the identified adaptation options. The statistical analysis has revealed very few significant associations between top ranked indicators and socio-economic characteristics of the respondents and practice groups.

The study identified a number of environmental, policy, and economic indicators that could help in measuring the effectiveness of adaptation actions at the local level. However, several questions remain to be answered, such as the cost of implementing such indicator-rich measurement system for small projects with little funds to spare for monitoring and evaluation, the capacity considerations for various stakeholders, the functioning of these indicators in consistency with the measurements done at the macro level.