H. P. State Council for Science, Technology and Environment, Shimla

Forestry Research Programme (FRP)
Department for International Development (DFID)
U. K.

Centre for Land Use and Water Resources Research

Indian Institute of Technology Delhi

Towards Implementing Environmentally Sustainable Water Policy for Himachal Pradesh

28th August – Shimla

Recommendations

- ***The implementation of State Water Policy in environmentally sustainable manner is a collective responsibility of all the stake holders***

  All the participants were unanimous on this requirement. There were some questions which will need elaboration such as which should be the lead agency? Although there were some concerns put by various departments but ultimately consensus was reached that IPH be the lead agency for water resource availability with the involvement of other associated departments like Agriculture, horticulture etc., and SCST&E should be the lead agency for keeping track of the health of the environment in the State.

- ***Use watershed philosophy by making appropriate use of the hydrological boundaries during the planning and management process***

  This requires standardization of watersheds and other base layers on the lines recommended by NSDI (National Spatial Database Infrastructure). State council for science, technology and environment has been identified to take lead in this, but with help from agriculture, horticulture, irrigation, rural developments.
  Place a common framework on the lines of the NSDI to collect data and collate information required for integrated planning and management at the scales varying from river to the watershed

- ***Identify the elements of data under the jurisdiction of each line department for collection and updation***

  The general data requirement and availability was discussed with a view to identify the line department who should be given the responsibility of the respective elements for creation and updation. The following emerged.

Data for river networks, drainage basins, watershed etc. (SCST&E).

Hydometeorological data - The state has a reasonable network of rainfall data which is further being strengthened through the World Bank funded Hydrology Project (HP II) under operation with IPH department. The hydrological data network shall also be strengthened under this project. The IPH shall take lead and coordinate with other organizations collecting hydrometeorological data in the State, such as HPSEB, Forest and Revenue department, HPKV Palampur and Dr. YS Parmar Horticulture Universities, CWC (regional office), etc.

Infrastructure data

It includes a large range of infrastructural projects connected with water resources. Some of the salient ones have been identified with the department responsible for its development and upkeep

IPH Deptt. - Hydropower projects, Irrigation, water supply, sewerage, flood control measures, ground water recharge structures

Agriculture Deptt. – minor irrigation schemes, water storage structure, soil conservation measures, individual irrigation schemes (individual farmers)

Forest Deptt. - Soil conservation and water harvesting structure, traditional water supply structures

Revenue Deptt. – traditional water supply structures

Rural Development Deptt. - Soil conservation and water harvesting structures.

- Base Layer Information – SCSTE and IPH
- Hydrogeology - SCSTE
- Water Quality – IPH, SEPPCB
- Landuse – State Landuse Board, Land Records Deptt., SCSTE
- Soil – Agriculture Deptt., State Universities
- Water user industries - SCSTE
- Wetland and Ecology – SCSTE, Forest
- Fisheries – Fisheries Deptt.
- Animal husbandry – Animal Husbandry Deptt.,
- Demography – Statistical deptt.,

- ***Through the common framework, develop linkages between all line departments dealing with various aspects of water such as the rural and urban water supply, minor irrigation, major and medium irrigation, the watershed development, agriculture and horticulture, forests, hydropower, health, environment, etc.***

  The present 5 levels of flow of information prevalent in majority of the line departments are:

  - Junior Engineer (JE)
  - Assistant Engineer (AE)
  - Executive Engineer (EE)
  - Superintending Engineer (SE)
  - Chief Engineer (CE)

  It was felt that this needs to be reexamined to bring workflow strategy for the state line departments to a common level. Once this is achieved then the implementation of cross-linkages at various levels and scales shall become comparatively easy.

- ***Take account of the inter-connectivity between watersheds and recognise that interventions can have unintended impacts at a range of different scales***

  - To be accomplished through analysis which should be taken up after all the required information is in position – SCSTE/Environment Department
  - Make assessment of the interventions taken place in the past on biophysical and socioeconomic– SCSTE, HP Universities.

- ***Take account of the physical characteristics of the watershed during the participatory planning of interventions and, in particular, ensure that***

interventions have the potential to benefit target groups

- Create perspective action plan – This is a collective effort – Lead by SCSTE with participation from implementing line departments.

- ***Use latest tools such as distributed hydrological simulation modeling to estimate flow quantities at all the scales after standardizing the hydro-model in complaisance with the international OGC (Open GIS Consortium) standards. Such framework shall provide water balance of any unit of choice. It can also be used to generate scenarios for possible interventions and to evaluate their impacts before implementation. Moreover, the availability of the framework with updation strategy shall provide the most up to date status of the hydrological system for any future intervention***
  - IIT Delhi team has agreed to play the lead role with cooperation from all concerned line departments.

- ***Establish systems of water governance that make effective decisions that take account of societal, economic and environmental conditions that are characterised by uncertainty, variability and change (including climate change).***
  - Policy update with the feed back from the previous exercise –SCSTE, IPH, Agriculture, Forest and many other departments.

- ***Technical Capacity Building***
  - All levels to generate action plans at respective levels.