Editorial

Need to take Measures to Combat the Effects of Climate Change

Climate change is real, and its effects have been very prominent in the last couple of years. The super floods of Pakistan in 2010, and of Bangkok, Thailand are some of the examples. In last three/four years, people of Nepal have experienced strange things such as ripening of wild fruits (*kafal*) about 1½ months ahead of the normal season and limited snow cover on Machhapuchhre (The Fish's Tail) peak near Pokhara. In some areas there will be increased drought periods and in some parts of Terai there will be increased submergence of crops in monsoon season.

The Department of Irrigation (DOI), Nepal Agriculture Research Council (NARC), CGIAR Research Program on Climate Change Agriculture and Food Security (CCAFS), International Network on Participatory Irrigation Management (INPIM), and International Water Management Institute (IWMI) jointly organized a National Conference on Water, Food Security and Climate Change on 23-24 November 2011 in Kathmandu, Nepal. The conference was timely and relevant. About 150 experts and officials participated in the Conference. More than 50 papers were submitted out of which about 22 papers were presented, including some from France and Australia. Further, there were several posters on display. The objective of the conference was to provide a level platform for participants to share experiences and lessons learned; to promote partnerships among disciplines and organizations on land and water management for food security; and to identify future directions on key issues such as water scarcity, food security and climate change in Nepal.

Asia is home to a large percentage of the world's population in relation to the land area. Climate change poses a great risk to water availability that induces food shortages. The conference participants discussed the effects of the climate change and possible adaptation and mitigation measures.

The following measures were discussed and proposed:

- water saving technologies, zero till farming, SRI farming techniques for paddy, Alternate wet and dry rotation of irrigation water supply in paddy field, drip/sprinkler system of irrigation,
- developing drought/flooding resistance crops varieties,
- promotion of traditional crops/fruits that thrive on without irrigation inputs,
- capacity building in communities and the public organizations, and
- construction of large water storage reservoirs and inter basin water transfer.

While temperature rise has a clear trend in Nepal, there is no clear trend in precipitation, except that there have not been winter showers for the last 5-6 years (with the exception of this year). Sometimes the intensity of rainfall becomes very high for a short period.

Various climate and hydrological models known as global and regional circulation models show wildly different outcomes for water flow under different climate change projections. It is a huge challenge for national agricultural management. Dr. Luna Bharati, Head IWMI-Nepal, is of the opinion that the uncertainty of climate change predications is a major issue and that any adaptation strategy that the government plans will have to take this uncertainty into account.

The effects of the climate change have been very much prominent for last 4-5 years. However, data available for analysis were from 2006 and older. This necessitates timely processing of climatic data by the Department of Hydrology and Meteorology and to make data available to the researchers.

Lastly, the Team of HYDRO Nepal journal extends grateful thanks to the organizers of the conference, especially IWMI Nepal, for entrusting this journal to publish a Special Issue with selected proceedings of the Conference.

We do believe that this kind of viable idea of documentation and sharing the knowledge generated by the conference will bear fruitful outcome.

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Editor-in-Chief