

National Training
on
Natural Resource Management for Enhancing Climate Resilience in Mountain Ecosystem

ICAR Research Complex for NEH Region, Sikkim Centre, Tadong, Gangtok organized a 10 day National Training Programme on Natural Resource Management for Enhancing Climate Resilience in Mountain Ecosystems under the aegis of NICRA project during February 10-19, 2014 as a part of the capacity building programme.

Twenty four Assistant Professors/ Scientists / Extension workers from the different ICAR institutes, SAUs, CAUs, Spices Board and KVKs participated in the training programme.

Twenty seven resource persons from different parts of the country delivered thirty eight talks covering many aspects related to climate change, adaptation and mitigation strategies for managing emerging environmental problems for enhancing sustainability of agriculture. The course also included various resource conservation techniques, technologies for efficient water/ nutrient utilization for enhancing production of crop and soil health. The breeding strategies for livestock, pig, poultry and fisheries and their health management were also discussed by different resource persons during the training.

The resource persons highlighted the variability of the climate, under current and future climate scenarios, their negative consequences for agricultural production worldwide and particularly under Indian conditions. The consequences of changes in variability may be as important as those that arise due to variations in mean climatic variables. Changes in climate will interact with adaptations to increase agricultural production affecting crop yields and productivity and direct effects will be through changes in temperature, precipitation, length of growing season, and timing of extreme or critical threshold events relative to crop development. Also, an increased atmospheric CO₂ concentration could have a beneficial effect on the growth of some species and will include potentially detrimental changes in diseases, pests, and weeds, the effects of which have not yet been quantified in most studies. In the middle and high latitudes, climate change will extend the length of the potential growing season, allowing earlier planting of crops in the spring, earlier maturation and harvesting, and the possibility of two or more cropping cycles during the same season. Climate change will modify rainfall, evaporation, runoff, and soil moisture storage. Sikkim, known for its high precipitation suffers from water scarcity during post-rainy season (November to April). In the recent years, rainfall variability in Sikkim has increased perhaps due to climate change *viz.* extreme rainfall events, which cause heavy runoff that leads to soil erosion and nutrient loss, prolonged dry spell during the post-rainy season and unpredictable withdrawal of monsoon. Adopting resource conservation practices helps reduce water losses from the soil by evaporation, increase infiltration and also helps moderate soil temperature. This promotes biological activity and enhances nitrogen mineralization, especially in the surface layers. The situation of the state became very serious in year 2012-13 with no rainfall during the winters. Surface water sources are the first casualty of global warming and ecological imbalance. Specifically, this training programme addressed the issues of (1) how the mean changes in future climate will affect the yield and quality of different crops (2) how the changes in climate variability affects changes in soil properties and nutrient acquisition pattern (3) how the changes affect water quantity and quality for utilization, and (4) some possible options to overcome the problems through adaptation/mitigation strategies.



Group photograph



Inauguration



Velidictory Function