

Training on “Capacity Strengthening in Climate Change Vulnerability, Risk and Adaptation Strategy Assessments in Agriculture Sector”

Training overview and Rationale:

Agricultural production is carried out through the selection of crops suitable for the climate of a specific region and application of proper farming methods. Therefore, agriculture is a climate-dependent bio-industry with notable regional characteristics. Climate change disturbs the agricultural ecosystem, resulting in the change in agricultural climatic elements such as temperature, precipitation, and sunlight, while further influencing the arable, livestock, and hydrology sectors. Climate change affects the agricultural ecosystem, giving rise to diseases and pests and causing change in biodiversity.

Agriculture is sensitive to climate variability and weather extremes, such as droughts, floods, and landslides. The forces that shape climate are also perilous to farm productivity. Increased temperature will also have effects, both detrimental and beneficial, on crop productivity. The overall effect of climate change on agriculture will depend on the balance of these effects. Hence, assessment of the impacts of climate changes on agriculture might help to minimize the risk and adapt farming to maximize agricultural productivity.

Objectives:

Enhance knowledge and skills of stakeholders, individuals, and professionals on understanding and assessing the risks of climate change and possible impacts on Agriculture services.

Participants are able to:

- Understand Climate change process and climate variability
- Understand Climate change impacts on agriculture
- Understand agriculture vulnerability
- Enhance knowledge on IPCC Fifth assessment report (AR5) and National Adaptation Plan (NAP) Framework for vulnerability and risk assessment and its application in agriculture
- Enhance knowledge on vulnerability and risk assessment in agriculture sector.
- Develop hands-on skill on how to assess agriculture sector impacts through index approach and spatial assessment of vulnerability and risk existing based on existing practices and knowledge;
- Able to practice participatory tools in CC and agriculture sector in field
- Support in decision making system to decide the climate smart agriculture practices
- Able to integrate climate change and multi-hazards into agriculture project designing and implementation for building resilience
- Enhance knowledge to build climate change adaptation/risk reduction plan formulation for climate smart agriculture.

Overview of the Course Modules and Contents

Module 1 (MI): Understanding Climate change, Climate vulnerability and agriculture vulnerability

- Distinguish between climate variability and climate change
- Understanding climate change process
- Understanding agriculture vulnerability
- Impacts of climate change on agriculture
- Drivers of change in agriculture
- Common tools used in agriculture sector
- Importance of agro-meteorological services
- Existing policies, strategies and plans related to agriculture sector: Strengths and gaps



Module 2 (MII): Vulnerability and Risk Assessment

- Understanding the vulnerability and risk assessment with regard to sensitivity, adaptive capacity, hazard and exposure
- Importance of relevant parameters and indicators during vulnerability and risk assessment
- Selection of appropriate indicators and sub indicators
- Identification of perennial and biennial river system
- Impacts caused by hazards and climate extremes in different phenological cycle of crops
- Shifting of crop cycle due to climate change
- Steps for vulnerability and risk assessment
- Stimulation exercise: Data collection through Vulnerability Capacity Analysis (VCA)

Module 3 (MIII): Indoor Simulation exercise on Climate Change Vulnerability and Risk Assessment

- Use of participatory tools for VRA
- Collection of secondary data
- Data entry, screening and management
- Normalization: Types and its significance
- Normalization of collected data

- Weight age and preferences
- Computation of indices (Hazard index, Exposure index, Sensitivity index, adaptive capacity index and Vulnerability index)
- Computation of composite risk index
- Categorization into 5 risk classes (Very high, High, Medium, Low, Very Low Risk class)
- Data presentation using GIS
- Significance of risk class for adaptation plan formulation

Module 4 (MIV): Formulation of climate smart adaption plan

- Mainstreaming climate change adaptation into agriculture sector
- Overview of climate smart agriculture theory and approach
- Prioritizing adaptation options using Multi-Criteria Analysis (MCA)
- Formulation of adaptation plan on the basis of prioritized adaptation options
- Preparation of climate resilient adaptation plan

Who should attend?

- Agriculture and livestock professionals,
- Officials from agricultural ministries and departments, provincial and local governmental officials,
- National and international governmental organization,
- Climate change practitioners, disaster risk management practitioners,
- Hydro-meteorologists and interested persons

ward	Exposure index	Adaptive Capacity Index	Hazard Index	Sensitivity Index	Vulnerability Index	Risk Index
1	0.346	0.273	0.580	0.422	1.543	0.310
2	0.171	0.292	0.601	0.590	2.021	0.207
3	0.708	0.224	0.608	0.510	2.278	0.980
4	0.460	0.292	0.549	0.556	1.903	0.481
5	0.516	0.422	0.382	0.559	1.325	0.261

Planning for the Course

Day 1 and Day 2: Participatory and Interactive lectures focused on MI and MII.

Day 3 and Day 4: Indoor simulation exercises, Practice of VRA tools, VCA tools and excel software application focused on MIII and MIV.

Day 5: VRA data presentation in GIS software and preparation of climate resilient adaptation plan.

Course Delivery and Methodology

The course has been designed to promote the sharing of: knowledge, expertise and experience amongst the invited resource persons, sector specialists, guest speakers and the course participants. It will encourage participants to think and act innovatively utilizing contemporary adult learning methodologies, including, but not limited to:

- **Participatory and Interactive** lectures and discussions
- **Guest speeches** and sharing the experiences
- **Indoor simulations** exercise.
- **Excel software application** on risk assessment data and information for VRA Analysis for data presentation.
- **GIS software** for VRA data presentation

Participants will be asked to participate fully in all of the above course activities. Certificates will only be awarded to participants who complete all course requirements.

Experts:

Facilitation Team includes:

- ✚ Climate Change expert
- ✚ Meteorologist
- ✚ Senior Agriculture Experts from government and individuals.
- ✚ Data Analyst

Languages:

The presentation will be in English and facilitation in Nepali and English both depending on the participants' suggestion as well.

Duration and Date of Timing

The training workshop is a non-residential programme. The designed module is classified into several sessions to meet the objectives of the course. The duration of training workshop is designed for 5 days. The training session will be started from 09 am and ended at 5 pm – non-residential. There will be altogether 16 training session in 5 days.

Event Date

27-31 January, 2020

Magh 13-17, 2076

Organizer-Nature's Conservation:

Nature's Conservation Private Limited (NCPL) was established in 2004 under Company Act of Nepal to carry out research and training and provide consulting services to government, UN Agencies, international/national non-governmental agencies, private sectors and academic institutions in the area of climate change, disaster risk reduction, watershed management, ecosystem, hydrology and meteorology. Policy, planning, engineering, management and social and scientific models and tools are the various categories which the company provides its services in the sectors. The company has energetic and experienced professionals in wide ranging fields. Working methodology of the company is to collaborate with national and international company, academic institutions and organizations.

Registration Fee

Event Fee per person: Nepalese Rupees 25000(in words Twenty-five thousand only per person) including VAT (The cost covers: Tea/Coffee/Cookies, Lunch during training days, Stationary, Certificate and Training materials).

For Students: 20% discount in the registration fee (Copy

Registration Process:

Interested individuals and organizations can register by sending the application and email. The application should be submitted online at:<http://www.naturesconservation.org/training/>

Venue:Kathmandu City

Contact and Letter of Interest Submission
conservationnatures@gmail.com

naturesconservation16@gmail.com

Contact for the details: Rabina Sipai (Mob 9841582614), Programme Officer, Nature's Conservation Pvt. Ltd.

Other contact numbers: 9851147229, and 01-4378336

Cancellation:

The event may not be canceled from the management if the minimum number of participants confirmed. Registered participants may give a notice for their cancellation before 5 days of the event start if any causes.