

ANNUAL PROGRESS REPORT
(16TH JULY 2015 – 15TH JULY 2016)



LEADERSHIP FOR ENVIRONMENT
& DEVELOPMENT NEPAL



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1. About Leadership for Environment and Development (LEAD) Nepal

In 2004 a small group of people with diverse background and work experience got together, united by the belief that we can develop a sustainable economy strengthening the ecosystem services delivery that works for the people and the earth that we live in. With this belief and drive Leadership for Environment and Development Nepal (LEAD Nepal) a non-profit organization was registered with the government of Nepal in 2004 (Registration#: 334/061/62; PAN #: 302893166; Affiliated in the Social Welfare Council Affiliation #: 26846)

1.1. Vision:

A just world with sustainable economic growth harmonizing the capacity of the earth's ecosystem services and contributing to organic products for food security, nutrition, health and enhance livelihood by 25%.

1.2. Mission:

- Dedicate to improve the quality of life in a way that protects and restore earth's environment and its services so as to provide the needs and aspiration of current and future generations
- Our Objectives
- Protect, promote and reinforce the ecosystems for incessant delivery of its services in terms of organic agriculture, agro-forestry, watershed management, animal husbandry, renewable energy, deforestation, and biodiversity;
- Reduce carbon footprints by addressing rural and urban consumption pattern focusing in resource efficiency and reducing holistic waste;
- Mainstream women, children, elderly and indigenous groups during the planning, designing and implementing phase of the projects through all levels;
- Obtain social justice and green economic growth.

1.3. Our Values

LEAD Nepal to support its mission depends on the ability of its staff to uphold and promote the highest standards of ethical and professional conduct. We are personally and collectively responsible for maintaining the standards listed below:

- Inclusive and nonpartisan approach in all stages of the programme including staffing;
- Work in partnership with government, NGO's, business houses, farmers, forest users groups, rural & urban community based organizations, academicians and the international communities with respect and dignity;
- Strive to apply donor's funds to the highest standards of accountability;
- Create environmental solutions that make a lasting difference;
- Innovative approach when designing and using a wide range of problem-solving tools;
- Embrace ambitious environmental goals while taking into account real world dynamics;
- Devote to Impact Investment by reflecting the ecosystem services provided are equitably spread to all social growth

1.4. Areas of work:

1.4.1. Green Economy

The Green economy aims at sustainable development without degrading the environment. The 2011 UNEP Green Economy Report argues, “That to be green, an economy must not only be efficient, but also fair. Fairness implies recognizing global and country level equity dimensions, particularly in assuring a just transition to an economy that is low- carbon, resource efficient, and socially inclusive”.

One of Lead Nepal’s core mandates is to uplift the living standard of marginalized group by increasing their income by 25%. This is achieved by introducing innovative healthy approach towards self-sustainability at the same time creating income-generating activity and linking producers and business entity to build a safe and healthy environment for today and the future. LEAD Nepal, tries best to promote pro-equity interventions in its entire program so as to achieve fairness during the process of a green economy. Few of the examples are stated below:

a) Organic Farming

By 2014, Lead Nepal has builds the capacity of 3800 farmers family and directly linked them to business centers who sell their products to many outlets within and outside Nepal. Organic Mountain Flavor Pvt. Ltd. alone exported 297 tons of ginger in 2014. LEAD Nepal’s five year plan (2020) is to enhance the capacity of 36000 more farmers covering an area of 9000-hector farmland between the elevations of 300 to 3700 meter, increase their yield by 25%, acquire organic certificates and directly link them to business houses. Currently, LEAD Nepal is exploring export market opportunities.

b) Agro-Eco Village

Lead Nepal has converted Sankhu Palubari village into an agro-eco village and income made from their products run the community school and cultural function.

c) Waste Management

Waste diversion is another green economy that Lead Nepal is involved in. The first step towards it was converting urban waste to organic compost, which became a lucrative business. Currently, LEAD Nepal is working towards waste to energy and is assisting the SWMTSC, Ministry of Local Development, in preparing zero waste strategy for Solid Waste Management, for Kathmandu.

d) Wetland Project

Products such as bamboo baskets, mats and natural fiber products are another green economy introduced and about 100 women in Tapuksohi, were empowered on macramé knotcraft.

1.4.2. Wastes Management

Waste has significant impact on ecosystem and pose threats to human health and wellbeing. Waste also threatens the integrity of habitats that are essential to biological diversity. The challenge is to develop responses to waste issues that can improve the quality of human life and biodiversity. [1]

LEAD Nepal aims to reduce reuse and recycle (3R) waste, with minimum waste going to landfill. LEAD Nepal jointly with other NGO's and PPAP conducted research and organized workshops on waste management in and outside Kathmandu valley.

In 2009, LEAD Nepal with partnership with Solid Waste Management Recovery Center, Ministry of Local Development Nepal, conducted a research on Zero Waste Management Project for Kathmandu and Lalitpur District in Nepal. LEAD Nepal based on its research extended its service to prepare the technical proposal for Integrated Solid Waste Management of Kathmandu Valley with BOT model on zero waste concepts.

1.4.3. Disaster Waste Management

In 2008, LEAD Nepal with support from Nepal Eco-tech Pvt. Ltd. did a research on Earthquake Hazard Management. Further, in response of the earth quack on 25 April 2015, Ministry of Federal Affairs and Local Development (MoFALD) jointly with Lead Nepal support by UNEP conducted a research on Disaster Waste and have prepared the Disaster Waste Management Policy, Strategy an Action Plan for Nepal. LEAD Nepal has conducted several workshops locally and have travelled internatinally representing Nepal on issues related to Disaster Waste Management

Nepal jointly with Karuna Shechen, has assessed the situation on 12 earth quack affected districts and is working on disaster waste management in the field level

1.4.4. Soil Protection

Protecting forests and trees are essential for warding off environmental degradation and rural poverty. In spite of the significance of forests and tree-based resources, present trends are not encouraging. Forest resources continue to be poorly managed and not used rationally. Deforestation mainly occur due to clearing for agriculture in areas not suitable for this purpose, fire wood collection, and urban and infrastructure development.

LEAD-Nepal, participated in planting tree, shrubs, bamboos in areas prone to land slide. In some areas terrace farming was promoted in order manipulates the water flow preventing from gathering speed and washing soil from farmlands. Contour farming was also implemented since crops planted parallel to the land slow the flow of water that prevents soil erosion, in open land trees and shrubs were planted as windbreakers which prevent soil erosion by slowing the force of the wind over open ground. Wetlands were also restored which is one of the most effective ways to prevent soil erosion. Wetlands act as natural sponges, absorbing rainwater and preventing it from carrying the soil away. They also provide a habitat for birds and other wildlife and help prevent water pollution. We also planted mixture of grasses, shrubs and trees as buffer strips along stream banks which helped hold stream banks intact during times of flooding.

1.4.5. Agro-forestry and Watershed Management

Agroforestry systems protect crops and forage, increase their production, protect soil and water resources, conserve energy, improve ecosystem "richness", create additional wildlife habitat, and increase landscape diversity. They also provide additional farm or ranch products: timber, pulpwood,

firewood, posts, fruit, nuts, and fodder to name a few. Agroforestry represents a collection of multipurpose practices that are enduring and help achieve sustainable agriculture.

Increase damage of agriculture is competing with forest-based livelihood. While it can offer hope for short-term poverty eradication, agriculture expansion can damage the natural services that woodlands provide to local community.

Encouraging farmers to grow indigenous varieties of trees and shrubs in combination with crops or forage. Also include tree and shrub plantings on the farm that improve habitat value or access by humans and wildlife, or that provide woody plant products in addition to agricultural crops or forage. Currently, LEAD Nepal is working on 12 earthquake-affected districts in capacity building of the locals on efficient use of agro-forestry while protection and restoring ecosystems services for incessant delivery of its services.

1.4.6. World Mountain Product Branding

The world mountain people's voice and hard work needs to be heard. Their experience, challenges and lessons learned have to be shared within the mountain people for a result-oriented solution. As a result, The World Mountain Product Association (WMPA) and World Mountain Product Branding as a wing was formed out of the World Mountain Forum held at UNESCO (Paris) and in Chambéry (Savoie – Alps) in June 2000 on the initiative of the National Association of Elected Officials of the Mountains (ANEM).

The international brand for mountain produce will give a platform to acknowledge and recognize the different products produced by the world mountain people and will improve the economy of these regions promoting their ideas and culture. Their experience sharing will lead to the creation of a network of mountain people, which can then be coordinated at an international level by WMPA. This global branding will act as an umbrella brand for specific mountain region or particular mountain product.

LEAD Nepal is working with farmers in Upper Mustang for the organic certification and has secured approval from WMPA for branding it as World Mountain Product. WMPA will market the products internationally on behalf of the farmers in Mustang.

1.4.7. Facilitation of Organic Certification Process

As a consumer, how can you tell whether a product is truly organic? Today, as consumers become more aware and responsible about what they eat and drink, there is an increasing interest in, and consequently a rising demand for, organic products. Therefore, Organic certifications have been put in place to provide the consumer with confidence in the product they buy.

Lead Nepal on behalf of the farmers have facilitated the process of organic certification with leading organic certification institutes and currently is in the stage of an internal inspection process.

Lead Nepal has imparted workshops and on the job training on the stages of conversion to organic farming. Workshops on monitoring and evaluation on the conversion to organic farming were provided, as it is a core requirement for the successful output. Currently Lead Nepal is in the process of acquiring organic certification for Upper Mustang region and the region around Surkhet.

1.4.8. Improve Irrigation Efficiency and Water Management

In the face of increase water security, demand for water is outstripping supply therefore we need to address the challenges that we face ensuring productive and efficient use of land and water resources to meet present and future demand while ensuring the long-term sustainability of the land and water quality and quantity.

We have facilitated new approaches to water use that include farming practices that use less water without affecting productivity. Specifics are integrated water resources management, water harvesting, groundwater, use of non-conventional water, reuse of treated wastewater, and modernization of irrigation systems, on-farm water management, and water quality management. We also need to developing policies, programmes, best practices and tools in the fields of irrigation and drainage, soil conservation, drought mitigation, water rights, access to natural resources, and improvement of land markets. Research still needs to be done in securing these sectors.

1.4.9. Improving Efficiency of Fertilizers

Soil condition is a key measure of the long-term productive capacity of an agro-ecosystem. Both natural weathering and human management affect soil quality, and maintaining soil quality requires that soil degrading and soil-conserving processes be balanced. Fertilizer is the engine of agriculture, but its inefficient use creates greenhouse gases, algae blooms and contaminated drinking water. Nitrous oxide pollution from agriculture mainly comes from using inorganic nitrogen fertilizers and from improper storing of manures.

Lead Nepal promotes the need to reduce nitrous oxide emissions by ensure fertilizer use is efficient and nitrogen losses are minimized.

LEAD Nepal actively promoted and gave trainings and seminars on different methods of producing organic fertilizer, organic growth motivators and organic method of combating pests. Training on crop nutrient management, planning and soil analysis was given which is also part of the long-term productive capacity of agro-ecosystem.

1.4.10. Organic Farming

It is a proven fact that organically managed soils can convert carbon from a greenhouse gas into a food-producing asset. It's nothing new, and it's already happening, but it's not enough. Organic food is healthier, better for farmers' livelihoods and does not destroy the ecological balance.

Rising temperatures, decreasing water availability and un-organic methods of agriculture in the long run reduce the yields particularly in developing countries where agriculture is vital for food security. Therefore, agriculture must also adapt to changes in climate in order to provide food security.

Organic agriculture has considerable potential for reducing emission of greenhouse gas and generally requires less fossil fuel per hectare and kg of produce due to avoidance of synthetic fertilizers. Since 2004, Lead Nepal has relentlessly worked on promoting organic agriculture that aims at improving soil fertility

and nitrogen supply by using crop rotation system. The enhanced soil fertility leads to stabilization of soil organic matter and in cases to a sequestration of carbon dioxide into the soil. This in turn increases the soil's water retention capacity, thus contributing to better adaption of organic agriculture under unpredictable climatic conditions with higher temperatures and uncertain precipitation levels. Thus small and large organic farming is essential to restore our food, livelihood and health security while mitigating ecological balance.

1.5. Approach of Work

1.5.1. Private-Public-Academic Partnership

To make a larger impact for a safe and healthy ecosystem plus economic viability, multi-functional partnership including government and international communities are cornerstone of LEAD Nepal's working strategy.

We try our best to work with socially responsible business sectors that respect and understand ecosystem services not only of its broad impact, but also because of its power to spur innovation, influence supply chains, inform consumer choice, and shape public policy.

At the grass root level, Lead Nepal works with the community mobilizers, community based organizations (CBOs), mothers and youth groups, village school forest users group, media house and VDC who were instrumental in creating awareness and inspiring the community in understanding the ecosystem services consequently motivating them to protect, prevent and mitigate the ecosystem and its services. Further, these groups jointly with the university students, professors and business house and LEAD Nepal conducted base line surveys, researches and progress status on different wings of the ecosystem services.

Lead Nepal help build the capacity of 3800 farmers, 10 mothers group, 10 Cooperatives, 9 youth groups, 6 Community schools, 8-forest users groups and selected students from 3 universities. Seventy percent of the target groups are females from diverse ethnic groups and many holding leading positions. By 2020, Lead Nepal plans to directly reach 36000 farmer HH's covering an area of 9000-hector farmland between the elevations of 300 to 3700 meter.

The start of private sector partnership was in 2006, whereby LEAD Nepal with its mandate linked The Organic Village presently known as The Organic Valley (TOV) with the farmers. With the support of LEAD Nepal the organic products were examined and an MOU signed, followed by establishing a processing unit in Kathmandu for packaging and processing of organic products. By end 2007 the organic spices and grains were showcased in leading departmental stores in Kathmandu.

LEAD Nepal with its growing farmers families and the successful surplus yield of ginger and turmeric expanded the business horizon of the farmers, which encouraged LEAD Nepal to participate in numerous agricultural exhibitions abroad and within Nepal. Finally in 2013, with the intervention of LEAD Nepal a joint venture company was registered, "Organic Mountain Flavor Pvt. Ltd" (OMF). A ginger-processing unit with the capacity to process 600 tons each day was established in Surket District, Nepal.

By 2014, LEAD Nepal had linked 3800 farmers' family directly to business centers in Nepal who sell their products to many outlets including OMF. By end 2014 OMF alone exported 297 tons of ginger annually, which was produced by 1700 farmers in Surket District. LEAD Nepal's five year plan (2020) is to enhance the capacity of 36000 more farmers covering an area of 9000-hectar farmland between the elevations of 300 to 3700 meter, increase their yield by 25%, acquire organic certificates and directly link them to business houses. Currently, LEAD Nepal is exploring export market opportunities.

1.5.2. Reinforcing the Ecosystem

Sustainable Agriculture: LEAD Nepal with the support of WWF Nepal assisted in a baseline survey of illegal wildlife trade in Mustang Valley and is currently involved in another project in Upper Mustang. The work scope involves promoting farmers to grow organic seeds and grains; empower them holistically in organic way of life; acquire organic certificates; establish an industry and market their product in the attempt to secure a healthy and comfortable life as well as mitigate climate change in a sustainable manner. The entire project is gender sensitive and inclusive in nature. LEAD Nepal is in partnership with TOV and the project is funded by WWF, Nepal.

LEAD Nepal to promote the right of education particularly for girl children successfully developed Suntol VDC, Sankhu Palubari, Bishambhara village into an Agro-Eco Village (going organic from school to home). LEAD Nepal trained the villagers on organic farming, water shed management and organic way of living and the surplus income generated from their products were used to run their village school and community programmes. This programmed became a success with the full support of District Agriculture Development Organization (DADO) and the community of Sankhu village.

Lead Nepal with its specialization on organic farming has worked as consultant all over Nepal and with its techniques of organic growth promoters, organic composting and organic pest management have builds the capacity of numerous farmers.

Organic Coffee: Lead Nepal, build the capacity of about 220 farmers on organic coffee plantation in six districts namely Illam, Kaski, Sankhuwasabha, Parbat, Lamjung and Nuwakot. The production capacity in these districts is about 100 tons of green beans per annum but currently only 15 tons are being produced. LEAD Nepal is exploring recourses to expand the training to 300 more farmers and acquire organic certification for the full utilization of the land available and uplift the living standards of the farmers.

Wetland Project: LEAD-Nepal jointly with TOV empowered 100 women in Tapuksohi, Nepal on macramé knot craft. Products such as bamboo baskets, mats and natural fiber products were designed and marketed in Nepal. The aim was to ensure maintenance and enhancement of wetland biodiversity and environmental goods and services for improved local livelihood in Nepal. The project objective was to strengthen national and local capacity in ecosystem management and sustainable use of wetland biodiversity in the Koshi Tappu wild life reserve area.

Mitigating Soil Erosion: LEAD-Nepal, with the local community and forest users group participated in planting tree, shrubs, and bamboos in areas prone to land slide in the urban and rural areas of Nepal. In some areas Terrace farming was promoted in order manipulates the water flow preventing from gathering speed and washing soil from farmlands. Contour farming was also implemented since crops planted parallel to the land slow the flow of water that prevents soil erosion, in open land trees and shrubs were

planted as windbreakers which prevent soil erosion by slowing the force of the wind over open ground. Wetlands were also restored which is one of the most effective ways to prevent soil erosion. Wetlands act as natural sponges, absorbing rainwater and preventing it from carrying the soil away. They also provide a habitat for birds and other wildlife and help prevent water pollution. We also planted mixture of grasses, shrubs and trees as buffer strips along stream banks which helped hold stream banks intact during times of flooding. They also prevent runoff from entering waterways. The re-establishment of forest cover provides an extensive, tree-root network that offers a long-term solution to soil erosion. It can function both as a windbreak and a means to anchor soils in place.

1.5.3. Rural and Urban Environment Management

Waste Management is another arena where we have made a difference. We started with serious of research and awareness programmes in and outside Kathmandu valley on reducing waste from source and waste diversion programmes. During 2004, the concept of waste to sustainable economy was unthought of by the government and the civil societies but with continues awareness programmes, today it's become a viable business. Lead-Nepal went to the extent of reaching out not only to the government and civil societies but aimed at school children who then would transfer their knowledge to friend and families. LEAD Nepal was the first to convert urban waste to organic compost. Supported by Jordan Foundation and Government of Nepal Solid Waste Management and Resource Center created training manuals conducted training on waste management at source.

In 2009, LEAD Nepal with partnership with Solid Waste Management Resource Center, Ministry of Local Development Nepal, conducted a research on Zero Waste Management Project for Kathmandu and Lalitpur District in Nepal. LEAD Nepal based on its research extended its service to prepare the technical proposal "Integrated Solid Waste Management of Kathmandu Valley (Package 1; Public-Private Partnership in BOT Model)". Lead Nepal also conducted a feasibility study on waste to energy for Kathmandu Valley with the support of Compunication OY & Bioste Company, Finland. Currently, Lead Nepal is part of the research and advisory team for preparing the detailed project report on zero waste management for Kathmandu Valley.

In 2008, LEAD Nepal with support from Nepal Eco-tech Pvt. Ltd. did a research and report on Earthquake Hazard Management. Soon after the 25 April 2015 earthquake, MoFALD and LEAD Nepal with the technical and financial support from UNEP jointly prepared disaster waste management policy, strategy action plan for Nepal. There were several meetings and consultations organized during the preparation process. These includes: (i) round table discussion on "Disaster Waste Management in Nepal"; (ii) workshop on "Disaster Waste Management in Nepal with International Development Partners and Funding Agencies";(iii) Sharing mission findings on "Field Observation and Findings on Disaster Waste Management; (iv) consultation with international experts at UNEP IETC;; (v) roundtable consultation on the draft Disaster Waste Management policy, strategy and action plan. Currently the team is finalizing the draft for its implementation.

Further, On 12 July 2015 LEAD Nepal signed MOU with Karuna Shechen to work as a response team for the relief, rehabilitation and restoration program in 12 earthquake-affected districts. [1] A base line study jointly conducted by Karuna Shechen and LEAD Nepal identified the potential risk for girl child trafficking and sexual and gender-based violence (SGBV). Hence the core reason for the intervention is to mitigate girl child trafficking and SGBV. LEAD Nepal believes that restoring social justice and introducing green economy, simultaneously creating awareness on the right of the child, CEDAW and gender sensitive

actions with its protection and response mechanism will help mitigate SGBV. LEAD Nepal is also working with INHURED for the rights based approach. Currently LEAD Nepal work scope involved a) watershed replenishment, maintenance and management; b) bio forestry c) sustainable farming, d) kitchen gardening e) organic composting and pest management; f) animal husbandry; g) crop storage technology; h) cash crop cultivation & i) awareness on SGBV j) reconstruction of schools.

With the support from JHPIEGO, USA, Dr. Neol MCintosh and Linda Tietjen USA LEAD Nepal conducted a baseline study on the water and sanitation challenges along the Bagmati river banks. In order get the best result LEAD Nepal with its experts gave orientation on the impact of poor sanitation and water pollution to 50 students from ASY Higher Secondary School, 51 students from Gate College and 100 squatters from Bagmati riverbanks. This group formed a team lead by Lead Nepal and jointly designed a project to protect, prevent and mitigate the environmental challenges posed by untreated sewage flowing through Bagmati River including the practice of dumping waste in the river. We can proudly claim that individuals who took part in this research are today taking a leading role in cleaning the Bagmati Riverbanks and so is Lead Nepal.

2. Major Activities

2.1 Disaster Waste Management

Nepal is one of the most disaster prone countries in the world because of its topography and climate conditions. It ranks 4th, 11th and 30th in terms of climate change, earthquake and flood risks. Other major disasters in Nepal are landslides, fires, droughts, epidemics, storms, hailstorms, avalanches and the Glacial Lake Outburst Flooding.

Nepal experienced a 7.8 Richter scale of earthquake in April 2015, which killed nearly 9,000 people, injured 30,000 and destroyed over 800,000 buildings. Nearly 14 million tons of waste was generated within a couple of days, 4 million tons of waste alone from Kathmandu, which is equal to waste generated over 11 years under normal conditions (PDNA 2015). Mixed with hazardous wastes, this large amount of disaster related waste resulted in adverse impact to public health and the environment. (REA, MoEST, 2015).

Although, many seismologists had predicted a major earthquake in view of the Himalayan fault line, Nepal still did not have a contingency plan to deal with disaster related waste. Because of the absence of this contingency plan, clearly identifying who does what and how, the emergency rescue and recovery process was uncoordinated. There was no thought given to the impact of the mixed waste on the soil, water, health or the environment. Furthermore, the handling of hazardous waste was totally neglected. Even today, Nepal does not have a facility for waste segregation or a treatment plant, whereas the application of the 3R strategy is still weak in its application.

The new Constitution of Nepal 2015 includes formulation of national policy to protect, promote and maintain natural resources in order to minimize environmental deterioration. It also provides a clear mandate to form environmental sustainable policy and law and the implementation of policy related to pre-information, preparedness, relief, and rehabilitation to reduce risk caused by natural disasters. The

legal framework of Nepal supports disaster risk reduction policies, but there is no specific reference to Disaster Waste Management, including Nepal's Solid Waste Management Act 2011.

Therefore, in an attempt to address the current Disaster Waste Management challenges and keeping in mind Nepal's SDGs 2030 targets, a preliminary DWM Policy Strategy and Action Plan, 2015 was developed with the technical support from UN Environment IETC jointly with the Government of Nepal, and LEAD Nepal. This was prepared after extensive field study followed by three stakeholder workshops. Based on the recommendation of this document there was some actions taken and above all the recognition from the Government that DWM is an important element of the rescue and recovery process.



Figure 1: DWM workshop

Major Activities:

- 1) Assess total debris deposited in 14 earthquake affected districts of Nepal by devastating earthquake of April 2015 and its aftermaths.
- 2) Assess existing management policy and practice of disaster waste and potential opportunities.
- 3) Develop a national strategy and action plan of disaster waste management of Nepal.

2.2 Landslides, Risk Assessments, and Mitigation in Post-Earthquake Nepal is a project of Government of Nepal, Ministry of Forest and Soil Conservation Department of Soil Conservation and Watershed Management.

In September 2015, under the leadership of Department of Soil Conservation and Watershed Management (DSCWM) and in partnership with UNEP, FAO, ICIMOD and UNDP, a consultative workshop was organized to discuss a common data sharing platform on landslide inventories and a harmonized methodology for landslide hazard mapping and treatment.

As a result, several working groups were formed to develop guidelines, which could be implemented in earthquake and landslide effected districts by the District Soil Conservation Offices (DTOs) and other concerned agencies. However, developing these guidelines would take time and acknowledging the urgency to address the landslide risk in the post-earthquake situation, a three and half-day workshop was organized.



Figure 2: Landslide site visit

Objectives of the Workshop was to:

- Assess and prioritize treatment of existing landslides
- Bio-engineering and livelihoods approaches during landslide treatment
- Identify available resources for landslide treatment
- Stocktaking of available data on hazards and risk at the local level
- Understand ground realities and adapt simple effective methodology

The Methodology followed

- Training Need Assessment (TNA)- a questionnaire was developed and distributed to the potential trainee participants to understand the expectation and their knowledge level towards landslide mechanism and treatment
- Meeting and discussion- pre- workshop meeting and expert discussion was conducted before finalizing the training materials and the approach to be followed.

- Pre-field visit – a team of expert together with the department’s soil-conservation officers were engaged in identifying suitable location for the field observation. The objective of the field observation was to give visualize the simple and effective landslide treatment methods



Figure 3: Field observation

During the workshop:

- Several slide presentation and discussions were held
- Three group exercises were conducted followed by flipchart presentation and discussions
- A one-day field trip was organized, providing hands-on learning experience on community-based process and different treatment applied for landslide mitigation. Expert Panel Discussion was organized with the participants

**Table 1: Output of the Group exercise 3 on
Issues of Prioritizing and Management of Landslide**

<p>Group 1 Issues of Prioritizing & Management of Landslide Landslide inventory Resource Management (People/Budget) Time Frame (Urgent or not) Public Contribution (PIP)</p> <p>Method for Prioritizing Matrix GIZ GPS Google Earth Guidelines Developed by the Department</p>	<p>Group 2 Issues of Prioritizing & Management of Landslide Community demand Resettlement & Reconstruction Vulnerability & Exposure Protection of lives & Property Community Infrastructure Protection Social/Cultural/Religious Values</p> <p>Method for Prioritizing Inventory/ Landslide hazard map Use of matrix for prioritization Use of matrix for recommendation and treatment Social Perception/Willingness of Community</p>
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Information needed for Prioritizing Hydrological, geo-morphological data Socio-economic data Technical feasibility Primary/Secondary data	Information needed for Prioritizing Bio-physical Information (land use/land system/land slope) Primary & Secondary data Socio-economic information Hydrologic information
Group 3 Issues of Prioritizing & Management of Landslide Inventory Community Demand (PIP) Treatability & Urgency Budget & Human Resources Technologies Method for Prioritizing Setting of indicators and criteria Rating & Scaling (GIS) <ul style="list-style-type: none"> a) Risk b) PIP c) Land Use d) Settlement and Infrastructure Information needed for Prioritizing SOC Exposure History Biophysical	Group 4 Issues of Prioritizing & Management of Landslide Degree of Severity (Land, people, settlement etc.) PIN/problem, interest, capacity of community needs (budget) PES upstream downstream (parameter for environment services) Method for Prioritizing Field Visit Information gathers from the community (group discussion) Survey design estimation Expert survey consultation Information needed for Prioritizing Report from VDC, DDC, Police, Community, Home Ministry etc. Facts & Figures of Damage Basic Maps, Land use maps, land system maps, GTS Hydrologic data, Socio & Bio Physical Data