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PARTNERSHIP FOR LAND USE SCIENCE (Forest-PLUS) PROGRAM

Report

**Training program on Climate Change, Greenhouse Gas Inventories,
Vulnerability, Mitigation and Adaptation analysis**

October 25- 26, 2013

Rampur, Himachal Pradesh



December 2013

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS AND ABBREVIATIONS

| | |
|-------------|---|
| CAMPA | |
| DCF | Deputy Conservator of Forests |
| Forest-PLUS | Partnership for Land Use Science |
| FSI | |
| GCC | Global Climate Change |
| GHG | Greenhouse Gas |
| HPFD | Himachal Pradesh Forest Department |
| MoEF | Ministry of Environment and Forest |
| REDD | Reducing Emission from Deforestation and forest Degradation |
| USAID | United States Agency for International Development |
| VFC | Village Forest Committee |

REPORT

1. INTRODUCTION TO FOREST-PLUS PROGRAM

The **Partnership for Land Use Science (Forest-PLUS) Technical Assistance Program** is a five-year **USAID**-funded program to reduce emissions and enhance carbon sequestration in India's forests by developing and testing effective ways to take REDD+ actions to scale. Working in close collaboration with MoEF and State Forest Departments, Forest-PLUS will assist in developing and deploying scientific tools and methods for improved ecosystem management and carbon sequestration, forest carbon inventory and reference baselines, designing modalities/ programs to create better incentives for forest dependent communities to participate in REDD+ activities, and enhancing individual and institutional REDD+ capacity.

2. BACKGROUND OF THE TRAINING PROGRAM

This was the first training course on 'Climate Change, Greenhouse Gas Inventories, Vulnerability, Mitigation and Adaptation' organized for frontline officials of Rampur circle of Himachal Pradesh Forest Department. This two-day training program was conducted on October 25-26, 2013 in New Nirsu, Rampur, Himachal Pradesh. Forest-PLUS designed this course mainly for Deputy Range Officers, Forester, and Forest Guards, of Himachal Pradesh Forest Department.

Presentations were prepared to be relevant in the Himachal Pradesh context. This training program is an output of and contributes to Forest-PLUS Activity 2.3.2, which is focused on building capacity on climate change issues; in this case within the State Forestry Departments of Forest-PLUS pilot landscape states.

3. PARTICIPANTS IN THE TRAINING PROGRAM

Details of participants (please see annex 2 for detail of participants) who attended this two days training program are as follows:

| Sr No | Particular | Number |
|-------|-----------------------------|--------|
| 1. | Range Forest Officer | 3 |
| 2. | Deputy Range Forest Officer | 7 |
| 3. | Senior Forest Guard | 2 |
| 4. | Forest Guard | 20 |
| 5. | Senior officials | 3 |
| 6. | Total | 35 |

4. PROCEEDINGS OF THE TRAINING PROGRAM

4.1. Inaugural session

Mr. Chandra Bhushan Pandey, Chief Conservator of Forests, Rampur circle chaired inaugural session. Dr. Sanjeeva Pandey, Additional Principal Chief Conservator of Forest (Project) was the guest of honor. Mr. Varghese Paul Coordinator Representative, USAID was special guest.

In the beginning Mr. Sandeep Khanwalkar, Training Coordinator, Forest-Plus welcomed all the guests and trainees. He gave introduction of the two-days training program and briefly talked about resources people's expertise in the field of forest and climate change.

Mr. C.B. Pandey again welcomed all the participants and guests in the training program. He also gave brief background of Forest-PLUS Program and told participants that climate change is very serious issues and we all are facing various challenges like sometimes very heavy snowfall, erratic rainfalls and rise in normal temperature. He sighted example of the heavy rains on 15-16 July in Himalayan state. He also told that MoEF is also taking keen interest in climate change mitigation and therefore programs like Green India Mission and CAMPA.



Figure 1: Inaugural speech by Mr. C. B. Pandey, CCF, Rampur Circle

He highlighted achievement of his circle in plantation activities and asked participants to learn what is carbon sequestration and carbon stocking and importance in forestry and climate change.

He briefly discussed FPP components and informed participants (who were mainly frontline staff of FD) that they would be involved in field data collection and therefore they must learn all the technical aspects of data collection procedure and recording.

He also told that in Rampur Circle there are only two type of land Agriculture or Forest and demanded that that FPP should adopt an approached which encourages convergence. He requested FPP team to engage politicians in such training programs too so that they too understand challenges of climate and related with development initiatives.

He appreciated FPP for preparing all the reference material in Hindi languages and asked trainees to wholeheartedly participate in the event.

Delivering his inaugural address, Dr. Sanjeeva Pandey exhorted for collective action in tackling challenges posed by climate changes. He asked for progressive thinking to all the stakeholders to mitigate serious environmental problems.



Figure 2 Special guest speech by Dr. Sanjeeva Pandey, APCCF- Project, Shimla

He informed participants that in the training program trainer/resource persons would be highlighting issues linked to REDD+. He thanked Mr. Pandey for invitation and organizing training program and good participation.

Mr Sandeep Khanwalkar, training coordinator, concluded inaugural session by extending vote of thanks to chief guest, special guest, chair and participants.

4.2. What is Forest PLUS Program

Mr Varghese Paul, USAID explained climate change scenario in simplified manner. He quotes various reports and highlighted issues like heavy rain in few areas, melting of glaciers, and sudden increase in water level in rivers.

In the context of Himachal Pradesh he told that community is changing agriculture practices because rainfall and temperature pattern have changes in past few years. Apple is being replaced by Plum in few

areas while attack from pest and occurrence of diseases in crops have also increased. In forest, Chir pine is replacing Oak forest while alpine pastures are shrinking due to invasion of weeds.

He explained what is climate, factor responsible for that and which are the main sources of greenhouse gases and what are the implications of such phenomena. He told that burning of fossil fuels like petrol and coal are biggest contributor of greenhouse gases and developed countries are exclusively responsible for this situation. Global community is very concern about this and during international conferences and meeting it was decided that developed countries must compensate developing countries in managing forest and thus term REDD+ come into existence. This REDD+ is readiness program which focuses on capacity enhancement of forest department, community and develop mechanism for incentive structure conservation work, develop tools and techniques for measurement carbon inventory and stocks. While developing such tools and techniques efforts would be done to balance management of forest, livelihoods and food security concerns.

Use of modern technologies would be used for measurement of carbon stock and monitoring changes. GIS and remote sensing techniques would be used at macro level and mobile/android based applications would be micro level for same. He also informed that for FPP four sites have been selected and Rampur is one of the sites. Selection was based on the criteria like FSI data, forest type, forest dependency, afforestation potential etc.



Figure 3 Mr. Varghese Paul of USAID explaining about REDD+ and Forest PLUS Program

4.3. Module 1: We and our environment

Session One: Understanding environment and its components

Mr. Rishu Garg in this presentation explained what is climate, ecosystem and relation among various ecosystems a very simple terms and language. He explained about biotic and abiotic components of environment in simple words and examples. His presentation was very effective in Hindi.

Session Two: Screening of a short film on our environment:

After presentation and discussion one short film on environment in English language was shown to the participants. This helped them to get sensitized on the issues related to our environment.

Session Three: Open discussion

Open house discussions were helpful to participants open up and ask questions. Initially participants were reluctant to ask questions but after probing them they raised their queries with the resource person.

4.4. Module 2: Global Climate Change

Session One:

Dr. Satish Bhardwaj, Professor, Dr. Y.S Parmar University, Nauni, Solan explained climate change phenomena and its implication on natural resources and on the lives of communities. He explained that for climate change perspective observation made during past 30 years has relevance and we don't focus on day to day changes in weather conditions. Factors like temperature, precipitations, and wind velocity are critically observed.

He also explained global climate change scenario with the help of examples and data on carbon oxide (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O). He informed trainees that normal presence of CO₂ should be 280 ppm but in 2013 it has increased up to 400 ppm, similarly presence of CH₄ in the atmosphere recorded about 1789 ppb (parts per billion) which is higher than normal condition of 1745 ppb. Changes in presence of N₂O also recorded which indicate increase in concentration.

Dr. Bhardwaj also informed that in Himalayan region 1.7⁰c increase in temperature was recorded in last 30 years and 15-20% decrease in snowfall which is very serious concern for all stakeholders. In simple terms he explained that summers are becoming warmer and winters are becoming cooler than the normal conditions. Instance of frost is also increase which has significant implication of agriculture and horticulture crops of the region. Number of rainfall days has decreased and intensity of rains have increase which causes flash flood and cloud bursts.



Figure 4: Prof. Bhardwaj interacting with the participants

He cited various reasons for global warming for example;

- Burning of fossil fuels
- Changes in land use pattern like deforestation, degradation
- Emission of greenhouse gases from human and agriculture activities
- Release of methane from intestine of bovine cattle, paddy fields

Explaining impact of climate change local economy he informed some 20 years apple cultivation was being done in 9 out of 12 district of HP whereas now apple growers have now this horticulture activity is taken in less than 50% of the areas.

In forest invasion of weeds have increases and species like lantana, parthenium grass could be easily spotted in higher altitudes which were not visible earlier.

Session 2:

Screening of a short film on Global Climate Change in English named ‘our beautiful planet’ and ‘watch this before you vote’ was done for the participants.

Session 3: Open discussion:

This session helped participants to get answers to their issues and concern about the topic and helped participants to learn more about the subject.

4.5. Module 3: Greenhouse Gases and their role in Global Climate Change

Session 1: Group work

In this session the participants were given four questions on climate change relating to their area of operation. They were asked to use their learning of the day one and past experiences and elaborate on the question given to their group. A total four questions were given for group work and each group worked on one question and made presentation of their group work.

The questions were as follows:

1. What do you think how climate change is affecting life in your working area?
2. What are the changes in livelihoods pattern of forest dependent communities due to change in forest quality/ degradation?
3. Who are most affected by climate change or forest degradation in your working area and how we can help or assist them?
4. What is your suggestion to address climate change issues, reducing forest degradation and deforestation and change in use pattern of forest land?



Figure 5: Participants in group work

Group work presentations:

Group one: The group discussed about current changes in their area and come out with specific points for each question. Those are elaborated against each question.

Question 1:

1. Agriculture getting affected by dryness
2. Damage to cash crops due to low rainfall and low snow fall
3. Water resources getting dried up
4. Less vegetation of grass in forest areas leads migration of animals towards villages in search of food

Question 2:

1. Decrease in animal husbandry
2. To earn living working as labor
3. Timber used for construction is not available which is affecting making of subsidized houses

Question 3:

1. Farmers and shepherd community are getting affected
2. Women
3. Gurjar community
4. Promoting forestry

Question 4:

1. Promoting forestry
2. Working on Land conservation
3. Making Farm Ponds
4. Prohibiting illegal cutting of trees and illegal possession

Group two:

Question 1:

Snow fall doesn't happen on time. Twenty years back the snowfall was regular. There has been a significant decrease in the snow fall in past 20 years which has affected the various sources of water also. The Channels which had water throughout the year now they have water only in rainy season.

Land water level has decreased because of Climate Change

- 1 less productivity is seen in crops
- 2 Diseases of various horticultural crops due to climate change.
- 3 Forest wealth is changing and increases in unwanted bushes are spreading. Because of deforestation people are not getting enough wood for their domestic use
- 4 Extinction of herbs has affected people's earning capacity, like Guchhi etc.
- 5 Agriculture tools generated from forest are not available, like agriculture items etc.
- 6 Climate Change has affected the Gurjar and Shepherd community largely. Good quality of grass is vanishing from forests and increase in unwanted bushes is affecting these communities.

Making people aware, in villages making people aware through seminars.

Question 4:

- 1 Protecting the forest
- 2 Making people aware about forests
- 3 Fencing of forest area
- 4 Cropping the forest area
- 5 Cropping vegetation which are beneficial for people
- 6 Stopping illegal mining and cutting of trees
- 7 Stopping illegal hunting, people should use minimal vehicle
- 8 Using electricity wisely

Group three:

Question 1:

Effects of Climate Change

- 1 Different types of herbs are found in higher altitudes of Himachal Pradesh. People stock them and use them for their livelihoods. Because of climate change lots of herbs are disappearing and few are about to extinct.
- 2 Agriculture is getting affected due to Climate change. Crops which were the main source of livelihood are getting extinct now.
- 3 Climate change is causing seasonal rainfall and snow storm.
- 4 Temperature is rising significantly because of climate change and causing lots of diseases.

Question 2:

- 1 People are migrating to other places as climate Change has affected the various employment opportunities which were generated from the forest.
- 2 There is a negative effect on environment by the increase in cutting of the trees which is also causing increase in soil erosion and harming the agriculture land.
- 3 Because of deforestation wild animals are migrating from forest to villages and causing harm to human lives and the crops.

Question 3:

- 1 All communities & classes who live in town and villages are getting affected by Climate Change.
- 2 They get the fodder for the animals from forest which is not available because of Climate Change now.
- 3 People use wood as fuel for cooking food etc. which is not available in sufficient quantity now.

Question 4:

- 1 Planting as many trees as possible as trees store CO₂
- 2 By planting trees we can mitigate the effects of climate change
- 3 Stopping the forest fire which is one of the major causes of forest pollutionas, one acre of forest area fire can produce 115 tons of CO₂

- 4 The world wildfires can release much more pollution into the atmosphere as compare to the pollution released from using vehicles all over the world.

Group four:

Question 1:

- 1 Adverse effect on vegetation of crops?
- 2 Natural sources (Water bodies etc.)
- 3 Adverse effect on human health
- 4 Adverse effect on living beings dependent on forests.
- 5 Probability of floods
- 6 Problem of drought

Question 2:

- 1 Extinction of herbs
- 2 Extinction of grass and vegetation
- 3 Decrease in income which was generated from forest
- 4 Decrease in agriculture
- 5 Decrease in animal husbandry

Question 3:

- 1 Decrease in small and cottage industry
- 2 Decrease in fodder because of deforestation
- 3 Increase in weeds production
- 4 Impact on Human and animal lives

Question 4:

- 1 Protecting forests
- 2 Division of forest
- 3 Soil work
- 4 Organic farming
- 5 Awareness about forest and farms
- 6 Building forest nectar

Betterment of situation

- 1 Planting large no. of trees in forests
- 2 Conservation of land
- 3 Protecting natural resources

Evening session:

Participants were shown two short films on climate change. After screening of films participant shared their views about first day and also shared their feedback and what they want to know more about the subject.

Day Two: October 26, 2013

4.6. Recap of day one

Day started with recap of first day of training. Participants were given two cards to write their learning on two questions:

- What they learnt on first day about Climate Change?

- What are the topics on which they need more clarity?

Summary of the learning by participants:

1. Climate change is directly affecting wildlife, our health and our agriculture and making our life difficult. We need to conserve our forests because they clean our environment.
2. Change in precipitation is also one of the reasons of climate change. Its uncertainty is making our life difficult.
3. Learnt about our environment and its components which were not known earlier.
4. Learnt about what is global climate change
5. Learnt about different factors like use of excess fossil fuel, pollution, standing water in paddy fields etc.
6. We are losing our water resources due to change in rain fall pattern.
7. Climate change is also affective our livelihood at local and global level. An extreme event changes our life badly.
8. Forest contributes in reducing carbon from atmosphere



Figure 6: Recap of first day

Summary of what the participants wanted to know more a wish list:

1. How we can address climate change issues in our area?
2. How greenhouse gases are affecting our life?
3. Want to know more about CO₂ and how it is affecting our climate?
4. Wanted to know more about ozone layer
5. How we can make proper balance between our requirements and environment
6. What we should do to protect ourselves from climate change?

Session 1: Greenhouse effect, Greenhouse Gases and their role in Global Climate Change, Greenhouse Gas inventories

This session was facilitated by Prof. Kartar Singh Verma. He discussed about climate change from Himalayan perspective and share local examples. This helped participants to link the subject with their

local condition. With local example he explained about what greenhouse gases and how it is affecting their life are. He explained greenhouse gas (GHG) with the example of poly house. He covered following topics in the session:

- Greenhouse effect, Greenhouse Gases and their role in Global Climate Change
- Greenhouse Gas Inventories

Session 2:

A short film on Greenhouse Gases in English was shown.

Session 3:

Open discussion on the issues related to GHG emission and how we can reduce it helped participants to understand how GHG emission is affecting their daily life.



Figure 7: Participants in training program

4.7. Module 4: Forests and Climate Change

Session 1: Role of forests in Global Climate Change

This session was taken by Dr. Sushil Saigal of Forest PLUS Program, New Delhi. He started his session with exercises to keep the participants active and bring them in learning mode. He elaborated on types of forests and linked it with Himalayan perspective. He covered following issues in his session:

- Forests as a Source of Carbon
- Forests as Sink and Store of Carbon
- Impact of Climate Change on Forests



Figure 8: Dr. Sushil Saigal facilitating session on Role of Forest in Climate Change

Session 2:

Short film on Global Warming in English was shown to participants. This helped them to understand links between forests and Climate Change.

Session 3:

In this session the participants raised questions on the issues linked with their work in their operational area. Resource persons tried to answer their most of the questions in open house discussion.

4.8. Module 5: Addressing Global Climate Change - vulnerability, mitigation and adaptation

Session 1: Global Climate Change and our life and livelihoods—vulnerability at global, national and local scales

Dr. K. S. Verma facilitated this session. He elaborated on how climate change and global warming is affecting livelihood of local community. He gave local examples to understand how climate change is affecting our life and how our changed life contributing in climate change. He further elaborated on farm forestry concept in the Himalayan context with local examples.

Session 2: Understanding Mitigation and Adaptation, International and national initiatives to address Global Climate Change, India's National Action Plan on Climate Change and eight missions, Green India Mission

Prof. Satish Bharadwaj conducted this session. He explained about India's action plan on climate change, what is Kyoto protocol and Clean Development Mechanism which were new to all the participants. He also explained about eight national missions on climate change. And what we need to do to address climate.

5. FEEDBACK SESSION:

Only one participant gave poor feedback for only one session and maximum three participants gave average scoring for three sessions. This explains that participants learnt and gain knowledge in each session. For most of the participants it was a life time experience. Analysis of participant's feedback is given in the annex 2.

6. VALEDICTORY SESSION

Mr. C. B. Pandey, Chief Conservator of Forests talked about Forest-PLUS program and explained about carbon stock and protection of our forest. He also emphasized that this training will help in developing good resource persons locally after completing all training event. He thanks to all participants and extended he support and cooperation in making all programs successful.

Training Coordinator, Forest-PLUS program, expressed his gratitude to CCF and her office staff who extended all their support and cooperation in making training program successful. He also said that without support and cooperation from the office staff it was not possible to make this program successful.



Figure 9: Group photo of participants

ANNEXURE 1: AGENDA



Forest-PLUS Partnership for Land Use Science

Training program on

“Global Climate Change, Greenhouse Gas Inventories, Vulnerability, Mitigation and Adaptation”

For frontline State Forest Department Officials

Program Schedule

Date : October 25-26, 2013

Time: 9:00 AM – 05:30 PM

Venue : Hotel Mahesh Regency, New Nirsu, Tehsil Rampur, District Shimla

| Day One- October 25, 2013 | | |
|---|--|--|
| Time | Session | Resource person |
| 9:00 AM to 10:00 AM | Registration of participants | |
| 10.00 AM to 10.15 AM | Introduction to the training course | Training coordinator |
| 10.15 AM to 10.25 AM | Inaugural address | Mr. C. B. Pandey Chief Conservator of Forests, Rampur |
| 10.25 AM to 10.30 AM | Vote of thanks | Training coordinator |
| 10.30 AM to 11.30 AM | What is Forest-PLUS Program – an overview | Mr. Varghese Paul Senior Forestry Specialist, U.S. Agency for International Development New Delhi |
| 11.30 AM to 12.00 Noon | Tea break | |
| Module 1. We and our environment | | |
| 12.00 AM to 01.00 AM | Session 1: Understanding environment and its components | Mr. Rishu Garg Senior Program Officer, Inspire Network for Environment, New Delhi |
| 1.00 PM to 2.00 PM | Lunch break | |
| Module 2. Global Climate Change | | |
| 2.00 PM to 2.45 PM | Session 1: Our changing environment – natural causes Our changing environment – role of humans Basic concepts and facts about global | Dr. Satish Bhardwaj Prof. and Head Department of Environmental Science |

| | | |
|--|---|---|
| | climate change | University of Horticulture and Forestry, Nauni |
| 2.45 PM to 3.15 PM | Session 2: Screening of a short film on Global Climate Change | |
| 3.15 PM to 3.30 PM | Session 3: Open discussions | |
| 3.30 PM to 4.00 PM | Tea break | |
| Day One- October 25, 2013 | | |
| Time | Session | Resource person |
| Module 3. Greenhouse Gases and their role in Global Climate Change | | |
| 4.00 PM to 4.45 PM | Session 1: Greenhouse effect, Greenhouse Gases and their role in Global Climate Change, Greenhouse Gas inventories | Dr. Kartar Singh Verma Director Institute of Biotechnology and Environmental Science DR YSP University of Horticulture and Forestry Neri 177 001 Hamirpur(H.P) |
| 4.45 PM to 5.15 PM | Session 2: Interactive exercise | |
| 5.15 PM to 5.30 PM | Session 3: Open discussions | |
| Day Two – October 26, 2013 | | |
| Time | Session | Resource person |
| 9.30 AM to 10.15 AM | Recap - Interactive session on recapitulation of key points from Day 1 | Training coordinator |
| Module 4. Forests and Climate Change | | |
| 10.15 AM to 11.00 AM | Session 1: Role of forests in Global Climate Change | Dr. Sushil Saigal Institutional and Governance Adviser Forest PLUS Program New Delhi |
| 11.00 AM to 11.30 AM | Tea break | |
| 11.30 AM to 12.15 PM | Session 2: Interactive group work | |
| 12.15 PM to 12.45 PM | Session 3: Screening of short film on links between forests and Global Climate Change | |
| 12.45 PM to 1.00 PM | Session 4: Open discussions | |
| 1.00 PM to 2.00 PM | Lunch break | |
| Module 5. Addressing Global Climate Change - vulnerability, mitigation and adaptation | | |
| 2.00 PM to 2.45 PM | Session 1: Global Climate Change and our life and livelihoods–vulnerability at global, national and local scales | Dr. Kartar Singh Verma Director Institute of Biotechnology and Environmental Science DR YSP University of Horticulture and Forestry Neri 177 001 Hamirpur(H.P) |
| 2.45 PM to 3.15 PM | Session 2: Screening of a short film on vulnerability to climate change | |
| 3.15 PM to 3.30 PM | Session 3: Open discussions | |
| 3.30 PM to 4.00 PM | Tea break | |
| 4.00 PM to 4.45 PM | Session 4: Understanding Mitigation and Adaptation International and national initiatives to address Global Climate Change India's National Action Plan on Climate Change and eight missions Green India Mission | Dr. Satish Bhardwaj Prof. and Head Department of Environmental Science University of Horticulture and Forestry, Nauni |
| 4.45 PM to 5.00 PM | Feedback session | Training coordinator |

| | | |
|--------------------|----------------------------|---|
| 5.00 PM to 5.30 PM | Valedictory session | Chair – Mr C. B. Pandey Chief Conservator of Forests, Rampur |
|--------------------|----------------------------|---|

ANNEXURE 2: EVALUATION ANALYSIS

| Session | Excellent | Very Good | Good | Average | Poor | Total |
|---|-----------|-----------|------|---------|------|-------|
| Module 1. We and our environment | | | | | | |
| Session 1: Understanding environment and its components | 10 | 19 | 7 | 0 | 0 | 36 |
| Module 2. Global Climate Change | | | | | | |
| Session 1: | | | | | | |
| Our changing environment – natural causes | 10 | 13 | 7 | 3 | 0 | 33 |
| Our changing environment – role of humans | 13 | 13 | 7 | 1 | 0 | 34 |
| Basic concepts and facts about Global Climate Change | 9 | 11 | 8 | 3 | 0 | 31 |
| Session 2: Screening of a short film on Global Climate Change | 9 | 15 | 12 | 0 | 0 | 36 |
| Module 3. Greenhouse Gases and their role in Global Climate Change | | | | | | |
| Session 1: | | | | | | |
| Greenhouse effect, Greenhouse Gases and their role in Global Climate Change, Greenhouse Gases Inventories | 16 | 17 | 3 | 0 | 0 | 36 |
| Session 2: Screening of Short Film | 5 | 12 | 7 | 0 | 0 | 24 |
| Module 4. Forests and Climate Change | | | | | | |
| Session 1: Role of forests in Global Climate Change | 20 | 11 | 4 | 0 | 0 | 35 |
| Session 2: Interactive group work | 10 | 14 | 5 | 1 | 0 | 30 |
| Session 3: Screening of short film on links between forests and Global Climate Change | 10 | 14 | 7 | 0 | 0 | 31 |
| Module 5. Addressing Global Climate Change - vulnerability, mitigation and adaptation | | | | | | |
| Session 1: Global Climate Change and our life and livelihoods–vulnerability at global, national and local scales | 10 | 16 | 7 | 2 | 1 | 36 |
| Session 2: Screening of a short film on vulnerability to climate change | 6 | 15 | 13 | 0 | 0 | 34 |
| Session 4: | | | | | | |
| India’s National Action Plan on Climate Change and eight missions | 8 | 17 | 7 | 3 | 0 | 35 |

ANNEXURE 3: LIST OF PARTICIPANTS

| S N | Name & Designation | Designation | Organization & Address |
|-----------------------------------|--------------------|--------------------------------------|---|
| Guest and senior officials | | | |
| 1. | Dr Sanjeeva Pandey | APCCF- Project | Shimla |
| 2. | C.B. Pandey | CCF | Rampur |
| 3. | R.K. Bhalla | DFO | Auni |
| 4. | Amit Sharma | D.F.O | Rampur |
| 5. | L.R Harnot | ACF | Rampur |
| Resource person | | | |
| 6. | Dr Sushil Saigal | Institutional and Governance Adviser | Forest PLUS Program, New Delhi |
| 7. | Prof. K.S Verma | Director | Institute of Biotechnology and Environment Science, University of Horticulture & forest, Neri Hamirpur, |
| 8. | Dr.S.K Bhardwaj | Professor | Department of Environmental Science VHF |
| 9. | Rishu Garg | Program Officer | , INSPIRE |
| Kotgarh Forest Division | | | |
| 10. | Pratap Singh, | Dy. Ranger, B-O Basagar | Kumassain Forest range, Kotgarh Forest Division |
| 11. | Satish Kumar, | Sr. Forest Guard, | C/O Range Forest, Office Kumarsain, Kotgarh Forest Division, H.P |
| 12. | Kashi Ram, | Forest Guard | Ahar beat Banagawn Block, Range Office Forest Division, Kotgarh |
| 13. | T.D. Thakur | Forest Guard | Sainj Beat, Kotgarh Range, Kotgarh Forest Division |
| 14. | Vipan Kumar | Forest Guard | Galani Beat, Kumasainn Range, Kotgarh Forest Division |
| Rampur Forest Division | | | |
| 15. | Hardev Singh | Range Forest Officer | Rampur Division |
| 16. | Mohan Lal | Deputy Ranger | Rampur Division |
| 17. | Dharam Das Charkan | Deputy ranger | Nagli, Rampur Division |
| 18. | Devi Das Thakur | Forest Guard | Rampur Forest Division |
| 19. | Sohan Lal | Forest Guard | Rampur Range |
| 20. | Lalit bharti | Forest Guard | Darshal Beat, Rampur Range |
| Wild Life Division | | | |

| | | | |
|-------------------------------------|--------------------|----------------------|---|
| 21. | Kamla Saini | Range Forest Officer | |
| 22. | Fr. Gopal Mehta | Deputy Ranger | |
| 23. | P.C Sharma | Deputy Ranger | |
| 24. | Parma Nand | Forest Guard | Wild life Division |
| 25. | Surat Singh | Forest Guard | Wildlife |
| 26. | Rakesh Kumar | Forest Guard | Nanlehasi |
| 27. | Usha Kaith | Forest Guard | Bhagwat Beat |
| 28. | Rajinder Singh | Forest Guard | Punang Beat |
| Aani Forest Division | | | |
| 29. | Tek Singh | Sr. Forest Gurad | Arso range, Buini Beat, Ani Forest Division |
| 30. | Roshan Lal Thakur | Forest Gurad | Aani Forest Division |
| 31. | Ramesh Chand Thaur | Forest Gurad | Doeg Beat, Chonari range, Aani Forest Division |
| 32. | Jal Sikander | Forest Guard | Brow Beat, Arsoo Range, Anni Division |
| Forest Working Plan Division | | | |
| 33. | Sher Singh | Range Officer | Bahal |
| 34. | Tek Ram | Deputy Range Officer | Forest Working Unit |
| 35. | Puran Chand | Dy. Ranger | |
| 36. | Dil Bagh Singh | Forest Manager, | Forest Working Plan Unit |
| 37. | Prem Singh | Forest Guard | Forest Working Unit, Nankhasi |
| 38. | Sohan Singh | Forest Guard, | |
| 39. | Shyam Lal Verma | Forest Guard | Luhall Range Choai |
| 40. | Ram dass | Forest Guard | R.O Wildlife Range , Sarahan |
| Kinnaur Forest Division | | | |
| 41. | Gourchan Dass | Forest Guard, | B.O Forest Block, Michar Kinnaur Forest Division |
| 42. | Krishan Lal | Forest Guard | Chausa Beat, Kinnaur Dorest Division |

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