Proceedings of the Workshop DEVELOPING GUIDELINES FOR ENSURING EFFECTIVE ADAPTATION TO CLIMATE CHANGE: FROM SCIENCE TO ACTION

24-25 March 2015, Kathmandu, Nepal

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Institute for Global Environmental Strategies, Japan Practical Action South Asia, Nepal



Participants of the Workshop

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# DEVELOPING GUIDELINES FOR ENSURING EFFECTIVE ADAPTATION TO CLIMATE CHANGE: FROM SCIENCE TO ACTION

#### 24-25 March 2015, Hotel Himalaya, Pulchowk, Kathmandu, Nepal

The Institute for Global Environmental Strategies (IGES) in collaboration with Practical Action Nepal along with other research partners in the Gangetic Basin organized a workshop to share the proficiencies on the area of effective adaptation to climate change and develop guidelines. Likewise, to make the guidelines as wide as possible, the experiences from Mekong basin were also shared in the workshop. The workshop primarily focused to develop the guidelines targeted to the policy makers, stakeholders and the specialists who are engaged in the climate change adaptation at local level.

The two day workshop addresses the issue of the effectiveness of adaptation to climate change by research institutions, governmental and non-governmental organizations who have been working in the sector. By using various methods that have helped provide with the ability to implement a project from the very initial stage, the techniques used so far are still fragmented. The workshop provided a platform for researchers, government and nongovernmental organizations to come together and share their learnings about the adaptation effectiveness and develop the guidelines which will again be shared to the adaptation community.

# **PURPOSE AND OBJECTIVES**

Adaptation effectiveness has been emerging as an important issue for several reasons: significant amount of investments are being made in climate change adaptation, the notion of uncertainty in knowing and addressing the climate change impacts on long-time scales, possible complex interactions and synergies with disaster risk reduction and sustainable development and potential for failure of adaptation interventions. In order to address the issue of adaptation effectiveness, research institutions and development partners have come up with various tools and techniques that aim to help adaptation practitioners in implementing adaptation projects on the ground. However, there is still no evidence or experience to date to suggest that a particular intervention can be termed the 'future proof' or 'perfect adaptation'. The concepts and tools developed thus far are still largely fragmented and lack of a single most 'effective case study' makes it even more difficult for both the practitioners and others engaged in adaptation to move forward.

Keeping the above context in view, the Institute for Global Environmental Strategies (IGES) in collaboration with the Practical Action Nepal and other research partners in the Gangetic Basin are organizing a regional workshop to share the experiences on the subject of adaptation effectiveness and develop guidelines targeting policy makers, practitioners, researchers and other stakeholders engaged in designing, funding and implementing climate change adaptation interventions. The primary focus of the guidelines will be to focus at on-the-ground implementation of the interventions i.e. community level.

In this two-day workshop, practitioners, researchers and government representatives with considerable history of funding, designing and implementing adaptation projects on the ground will come together and discuss issues pertinent to adaptation effectiveness and develop guidelines which will be further developed for sharing with the adaptation community at large. Though the workshop primarily consists of participants from the Gangetic Basin, efforts were also made to bring the experiences of the Mekong basin so as to make the guidelines as widely applicable as possible. The outcomes of this workshop will be published into a report to be shared with stakeholders engaged in climate change adaptation.

### Agenda

#### Day I: 24<sup>th</sup> March 2015 Time **Session details** 9:00-9:30 **Registration and Opening remarks** IGES **Practical Action** 9:30-11:00 Panel on adaptation effectiveness: Researchers Chair: Mr. Purushottam Ghimire, NPC, Nepal Dr. SVRK Prabhakar, IGES Ms. Divya Mohan, TERI Mr. Gehendra Gurung, Practical Action Dr. A A Nambi, WRI Ms. Sreeja Nair, Singapore National University What are the overall underpinnings of adaptation effectiveness? • What methods can be adopted to assess the adaptation effectiveness? What are the limitations in our understanding on adaptation effectiveness? • How to achieve effective adaptation considering the uncertainties? Panel on adaptation effectiveness: Governments 11:00-12:30 Chair: Dr. A. A. Nambi, WRI Mr. Abu Wali Raghib Hassan, FAO on behalf of Government of Bangladesh Mr. Gyanesh Bajracharya, Team Leader, PPCR, Nepal Mr. Naresh Sharma, Under Secretary, MoSTE, Nepal Mr. Purushottam Ghimire, Joint Secretary, NPC, Nepal ٠ How governments view adaptation effectiveness? What approaches governments have taken to ensure the adaptation projects are • successful and how the success has been defined in the context of adaptation? What bottlenecks were faced by governments and how they were overcome? • What information and skill requirements were felt to ensure effective adaptation? • 12:30-1:30 Lunch 1:30-3:00 Panel on adaptation effectiveness: NGO experiences of implementing adaptation projects Chair: Prof. Trinh Cong Van, MWI A. Gurunathan, Dhan Foundation, India Neera Pradhan Shrestha, ICIMOD, Nepal Sarder Shafiqul Alam, BCAS/ICCCAD, Bangladesh • How NGOs view the adaptation effectiveness? What approaches were taken to ensure the adaptation projects are successful and how the success has been defined in the context of adaptation? What bottlenecks were faced to ensure effective adaptation and how they were overcome? What information and skill requirements were felt to ensure effective adaptation? 3:00-3:30

Tea break

Time	Session details
3:30-5:00	Adaptation effectiveness experiences from the Mekong region
	Chair: Mr. Abu Wali Raghib Hassan, FAO, Bangladesh
	Dr. Trinh Cong Van, MWI
	Dr. Pham Van Song, Thuyloi University
	Mr. Nguyen Xuan Hien, Southern Institute for Water Resources Planning
	• How different stakeholders (NGOs, researchers etc.) understood the issue of adaptation effectiveness?
	• What are the current efforts to ensure effective adaptation?
	• What bottlenecks were faced and what efforts were made to overcome?
	• What information and skill gaps were identified to ensure effective adaptation?
5:00-5:30	Discussion on planning the day II for developing the guidelines*
	SVRK Prabhakar

\* involves the organizers explaining the proposed process and seeking response from the

### Day II: 25<sup>th</sup> March 2015

Time	Session details
9:00-9:30	Explanation and discussion on the process of developing the guidelines
	SVRK Prabhakar, IGES, Japan
9:30-12:00	<ul> <li>Breakout groups working on adaptation effectiveness guidelines</li> <li>Three groups will be formed consisting of researchers, NGOs (including donor and multi- and bi-later donors) and governments.</li> <li>Each group will be provided a broad framework along which the groups will be requested to draw guidelines for ensuring adaptation effectiveness covering each stage of the adaptation project planning and implementation.</li> <li>Each group will elect a leader who will put down the discussions in a descriptive manner to be developed into guidelines text upon completion.</li> <li>Groups are free to refer to internet resources to find solutions and to instill ideas and solutions.</li> <li>The group contributions will be published as a chapter in the report to be broughtout after the workshop and all group members will constitute as its authors with the discussion with the discussion.</li> </ul>
12.00-1.30	
1.30-3.00	Continue working on developing the guidelines
1.50 5.00	<ul> <li>The discussions will continue. At this stage, the groups are expected to distill the salient points separately and put them into presentation format.</li> </ul>
3:00-3:15	Tea break
3:15-5:30	<ul> <li>Presentations by breakout groups and plenary discussion</li> <li>Chair: Dr. A.A. Nambi, WRI, India and SVRK Prabhakar, IGES, Japan</li> <li>Each aroup will have 15 min presentation to present their findings</li> </ul>
5:30-5:40	Wrap up and further process

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# **DAY I: SHARING THE LESSONS**

#### Welcome Address:

Mr. Gehendra Gurung, Head of Disaster Risk Reduction and Climate Change of Practical Action introduced Dr. SVRK Prabhakar and Mr. Upendra Shrestha to the participants. To provide some information about the project he called upon Dr. SVRK Prabhakar, IGES.

Dr. SVRK Prabhakar from the Institution for the Global Environmental Strategies (IGES), JAPAN introduced the project "Identifying adaptation effectiveness indicators and practices in the Gangetic Basin". This being the last year of the project the indicators and practices had been identified during the project and the conclusion has been derived.

The main aim of the workshop is to bring together the 3 stakeholders together that is the government sector, the non-governmental organizations and the research communities.

Dr. Prabhakar highlighted that the workshop would be very productive with the first day being the day to share the experiences of the participants to get to know each other whereas the second day the participants would connect and share the ideas on the issue. He concluded by wishing the participants well for a constructive and fruitful workshop ahead.

The Acting Country Director of Practical Action Mr. Upendra Shrestha delivered the welcome address. He expressed his gratitude to the participants for accepting the invitation and further introduced Practical Action as an INGO working in the field of Agriculture, Food Security and Market, Urban WASH, Access to Energy and Disaster Risk Reduction and Climate Change. He highlighted how climate change has been a cross cutting sector which has been invading all the thematic areas. He talked about the year 2005 when the adaptation work was established for the very first time in Chitwan, Nepal by Practical Action. Moreover, he mentioned that the learning and sharing of the information has been going on ever since but at a minimal rate and pointed out that the workshop is to share the lessons learnt during the project. Mr. Shrestha concluded by wishing good luck to all to come up with a standard guideline for adaptation and have a productive and successful workshop.

#### **Session 1**

The session began with the brief introduction of the participants. The majority of the participants were from non-governmental organizations (NGOs) followed by the governmental sector and then the research sector.

The foremost objective of the workshop is to bring together these 3 stakeholders together and come up with adaptation effectiveness guidelines.

#### **SPEAKER 1: Dr. SVRK Prabhakar, IGES.**

Dr. Prabhakar gave a brief introduction about the project. He highlighted the importance of adaptation effectiveness. He briefly defined adaptation as the intervention delivering the intended benefits helping the benefactors in adapting to the climate change. He talked about the benefactors of the adaptation effectiveness and elaborated the intentions of adaptation. Furthermore, he pointed out several approaches for vulnerability. Accounting vulnerability for today and tomorrow, the known and the unknown, he pointed out the difference in every such vulnerability and its indicators. Dr. Prabhakar further discussed on resilience and adaptive capacity and questioned the participants "Are we really doing it right? Are we really measuring the resilience and adaptive capacity with many aspects?" Similarly, he talked about maladaptation interventions are not worth beyond 5-10 years. He highlighted the failure to meet the gap and what would happen if the mitigation objectives are reduced. He talked about maladaptation seeking objective rather than an outcome.

Dr. Prabhakar cited 2 different adaptive approaches i.e. quantitative and qualitative approaches. The qualitative approach providing the indicators link to adaptive approach. These are more a multi criteria decision making problem than the others. Also, with an example for choices of menu from a restaurant he elaborated the use of Analytic Hierarchy Process (AHP). He talked about the case studies of drought and flood areas in India (Kanpur District), Bangladesh (Chapainawabganj district) and Nepal (Bara and Parsa Districts).

Finally, he concluded by prioritizing adaptation options which enhanced effectiveness. Similarly, multi criteria analysis approaches can help take multiple criteria into consideration for prioritizing adaptation options. He mentioned that it is a robust mechanism and hence is effective. This approach helps build capacity as it involves some amount of capacity building for the participants.

#### **SPEAKER 2: Ms. Divya Mohan, TERI.**

Ms. Divya Mohan, TERI started her presentation by giving a brief introduction about her project. The study area of her project is Kanpur Dehat District (Ramabainagar), Uttar Pradesh State, India. She focused on the Ganga basin being the food basket of India and having a huge dependence on water for irrigation. But it is a drought prone area and the monsoon rainfall is critical. Her study area is of 2 blocks. The interventions that she used for her study was bunding depending on the slope with Uttar Pradesh Land Development Authority being the implementing agency. This project is also supported by local NGOs. The objective of the project was to check water run off during monsoon, to check soil erosion and nutrient runoff and to improve water recharge and moisture retention. The methodology used is the indicator based approach by doing pilot and main survey. The indicators were modified and hence the household surveys were done.

The speaker elaborated her findings in a graph where her results showed people's perception and impact by survey findings. It also showed the ranking of the possible adaptation option and the environment effectiveness, social effectiveness and the economic effectiveness. Furthermore, she carried out statistical analysis and also did numerous comparisons of the indicators with gender, economic status and practice group. Ms. Mohan highlighted her study implications and its limitations as well as various discussions were carried out where she explained it all with an example of the preference of water availability as an increase option.

#### SPEAKER 3: Mr. Gehendra Gurung, Practical Action.

Mr. Gehendra Gurung began his presentation on "Prioritizing Local Adaptation Actions Using Analytical Hierarchy Process: A case study in Nepal". He began with the context where he elaborated about the adaptation decision which we all know is difficult as it depends on various factors such as the climate events, social and economic aspects, the existing policies, technology availability and many more. As such a simple ranking procedure cannot capture the adaptation decision making process, so the method used in the project is a multi-criteria method. As discussed earlier, Analytical Hierarchical Process (AHP) methodology has been used in his project. This study has tested the AHP in Nepal under different social, climate hazard and community contexts inorder to see the feasibility of using AHP in local adaptation decision making process. The project study area is the drought prone (Fattepur VDC, Bara district and Bageshwori VDC, Parsa District) and flood prone communities (Manau VDC, Bardiya district and Fattepur VDC, Banke district). The methodology chosen were Focused Group Discussion as in a focused group all the multi-criteria's discussed above had been used, Pair ranking using Saaty's Fundamental Scale of Judgement (comparing between two options and knowing which option gets higher value) and then using the Analytical Hierarchy Process (AHP) once pair ranking is done from among the two groups one will get a certain rank. For this lots of numerical values are generated and are processed through the program by the super decisions software. Basically the main focus was on the focus group where male and female in the community were asked separately.

The overall findings of the project have been categorized on the basis of priority ranking for both the male and female from the same communities. While looking at the result of the adaptation practices in Bara and Parsa in drought prone areas, the top priority is given to bore well by both whereas the second priority differs as the male prefer pest control and the female members of the community prefer organic manures. The third priority is given to alternative cropping system by the males and fertilizer management by the females. The forth priority the males chose was drought resistant crop varieties and the female's pest control. The fifth priority varies again where the males chose zero and minimum tillage whereas the females chose alternative cropping systems.

Similarly in the flood prone areas, the male people thought that early warning is very important but the female group gave priority to the embankment to protect the river banks. And in the effectiveness indicators in the drought prone areas to know how the adaptation is monitored; the male and female group chose the availability of water and increase in crop yield as a way where the intervention is found to be effective. But when it comes to the third priority the males prefer improved health and education whereas the females chose better access to service. Again, in the flood prone area when asked about the adaptation effectiveness, both the genders preferred saving of life and reduction in loss of property as an indicator. But the other priorities changed for the different groups.

Moreover, the criteria for choosing these indicators for the drought prone areas were also stated. When the male were asked they were driven towards policy, factors beyond their community and seep towards benefit and have broader policy level of criteria or influence their education and awareness levels whereas the females have localized criteria where they can adjust, communicate and that they can see them. Similarly, in the flood prone areas, the male have chosen the raising awareness whereas the female have different criteria. When both the groups were asked to choose the indicators and their criteria, they differed. He further discussed about the multicriteria analysis and how they differ from among the different groups and different communities. Numbering of the values is done according to the Saaty's Fundamental Scale of Judgement. Mr. Gurung also gave an example of this scale of judgement and did pair wise comparison of practices by indicators, indicators by criteria and criteria by criteria. He also presented the actual datas of the priority values for criteria, indicators and practices in drought and flood prone areas for the males and females.

Finally he concluded by highlighting the major findings of the study. He restated that the priority for adaptation practices, indicator for adaptation effectiveness and criteria for indicators vary from male to female and from location to location. In the drought prone areas in Bara and Parsa bore wells are the most preferred by both the males and females whereas lives saving activities were the priority for male and river embankment and property and assets saving were priorities for the female in flood prone areas. Also, the indicators for adaptation effectiveness that is the availability of water was the priority indicator for both male and female in drought prone areas and human lives saved was the priority indicator for both male and female in flood prone areas. Mr. Gurung restated that the criteria for indicator differed between locations as well as in groups. When in group the males' criteria were more tend to be influence by external factors like policy, awareness, education, etc. whereas females' criteria tend to be more simple, easy understandable, easy to communicate, etc. He further stated that the social-economic factors and contextual specification in terms of gender differences, though both gender groups tend to identify similar set of criteria, practices and indicators, the relative ranking of options did differ between gender groups and that the differences identified across study locations could be attributed to the location-specific conditions such as local vulnerabilities, socio-economic conditions and other prevailing factors including the differences in experiences of communities with the practices evaluated. Moreover, though the use of AHP for Multi-criteria Analysis was challenging. It provided a valuable learning tool for the participants in understanding how to evaluate adaptation options.

#### **SPEAKER 4: A A Nambi, WRI**

The speaker Mr. A A Nambi began with the general definition of adaptation as a complex, context specific, multi sectoral and multidecision makers. He elaborated about the research aspects of adaptation and what it takes to do a good research. The speaker restated that we all are aware that adaptation is an emerging issue. Some challenges that we all know is that adaptation is complex and context specific. The decisions have different levels in community which involves the society, groups, individuals and governments and hence is complex. Information is very critical to plan and design any activities. And then translating that to understand risk and then accordingly to evaluate the process. From among various definitions the one which is accepted worldwide is that of Adger 2005 that is effectiveness which relates to the capacity of an adaptation action to achieve its expressed objectives. The relationship between the target group and the outcome of it is the focal point. Similarly, success in adaptation context is a very relative term as adaption comprised of multiple sectors, multiple actors and many more. The speaker gave a brief description on the types of focus that are temporal and spatial scales. Furthermore, he explained about the effectiveness in terms of orders where the first order belongs to the institutions, the programmes and policies. The second order requires the first order to understand these things, that is the elements in the second orders such as reduction in climate risks, reduction in vulnerabilities, well-being of the communities, enhancing incomes, and reducing food insecurity, enhanced resilience, are supposed to be understood and mitigated by the first orders.

Mr. Nambi explained about adaptation measurement being a challenge. As stated earlier that measuring of adaptation is complex as it comprises of numerous sectors. Similarly, while measuring adaptation the external factors cannot be secluded as we are all inter related and nothing can be isolated and it also depends on the future which we are completely unaware about. Furthermore, he stated the three factors that the GEF proposes to estimate the effectiveness which a project/ programme's ability to minimize uncertainty, achieved by using a spectrum of available sources of data; a project/ programme's ability to alter communities' long-term perceptions and behaviour toward climate change by convincing them of the need to adapt to climate change and giving them the confidence that adaptation activities can succeed; a project/ programme's ability to address the systemic nature of climate change by mainstreaming it into broader political, legal, and regulatory structures. The speaker mentioned climate change adaptation as a constellating process where everything is linked to each other and cannot be neglected.

He highlighted the importance of the monitoring and evaluation tools in the context of climate change adaptation. He reiterated that the principal aim of monitoring and evaluation is to demonstrate the benefits of adaptation. We must understand what works well and support the

actions under uncertainty. Also, the monitoring and evaluation needs to be considered during the very beginning of the planning and design phase of a project. In terms of monitoring and evaluation tools he pointed out some important tools such as contextual monitoring which states the trends of changing contexts. Sequential targeting can also not be neglected as the setting interim targets or several milestones that relate to expected performance over short intervals and are revised over time. Similarly, the contribution analysis checks on the necessary or sufficient causal factors by comparing and testing causal narratives as mentioned by Ian Burton who is considered as father of figure in adaptation.

The speaker further highlighted the theory of change as an articulate theory of how the anticipated change will come about and the contribution to this to activities. He stated the challenges in adaptation in the monitoring and evaluation by attributing the observed change to specific activities within complex contexts on the basis of causes and effect. He further iterated that we have to be prepared for adaptation as the setting of baselines and targets with changing climatic hazards are unpredictable. Also the indicators used cannot be reversed as there is no turning back once the incident has occurred. We are here looking at a moving target which is a challenge to us in every aspect. Assessing the effectiveness of adaptation initiatives with long-term benefits within short- and medium-term evaluation cycles also has to be carried out. But as we lack universal indicators the empirical evidence has to be gathered.

Mr. Nambi further elaborated that the design of the indicator is based on the formulation since the indicators being specific and precise cannot be relied upon. Also, the relevance of the indicators is to be noted and the baseline and targets are to be determined from every point of view. In relevant to the baseline and targets of the indicators, the speaker mentioned an example of Rajasthan where the baseline information carried out failed as an incident which had not happened in the past 10 years occurred when a project was being carried out. Furthermore, the confirmation of the source of verification is also equally important. In designing the indicators the method of data collection and analysis is also a vital component. Assessing the effectiveness of adaptation initiatives with long-term benefits within short- and medium-term, evaluation cycles can be handled using different tools which are now available.

When talking about effectiveness, the speaker also stated some essential points on which effectiveness depends. Effectiveness needs to be judged with regard to how well an adaptation action deals with uncertainty. He restated that a sound science is critical even in terms of methods and designing as when dealing with the unknown. Similarly, a sound science is a good methodology to gather, analyse and interpret data. AHP is a very important tool here and is doing well. Other different tools are also available but we need to be innovative in terms of adapting to the tools and must know how to use them well. The speaker stated that science is a society linkage and we all know that linkage is very critical. We questioned all about the use of science as if we do not use it for the people then what its point is using it in the very first place.

Mr. Nambi concluded by restating the needs of adaptation tools as measuring, monitoring and evaluation of effectiveness is a complex area of adaptation research. There is a need to understand from other fields as well. This applies not only to climate change but also other sectors of work such as medicine, education and so on. Similarly, there is a wide range of experience and tested methods that can help address issues of attributing impacts and some aspects of uncertain futures. Moreover, understanding the constituency is also very important. Finally he ended his presentation by giving importance to the choice of indicators as there is no certain set of indicators that we have to follow. Every indicator changes with the location and that has to be monitored well for ensuring effective adaptation to climate change.

#### SPEAKER 5: Shreeja Nair, Singapore National University.

Ms. Shreeja Nair of Singapore National University presented her presentation slides with the title "Adaptation decision-making under uncertainty". She briefly explained the outlines of her presentation as it stated about the characterization of uncertainty in policymaking, uncertainty and adaptation policies: issues and challenges, addressing uncertainty in the short and long term by the adaptive policies, experimentation and planning for incremental and transformational adaptation and then the summary and discussion points for designing the effective adaptation guidelines.

The speaker focused on the theoretical aspect of policy making. She presented on the characterization of uncertainty as in climate change uncertainty is unreasonable. She stated that according to Knight, 1921 the uncertain future can be distinguished into that which is reasonably quantifiable and represented by probability distributions (risk) and that which cannot, be known. However, classification of uncertainty can simply be said as that whose probability is unknown and makes 'real-world decision-making' difficult. Until recently, where a major challenge in designing strategies to deal effectively with uncertainty has been the inadequacy of various schemes and models to classify different types of uncertainty and assess their impacts. Under the high levels of uncertainty,- there is little agreement on the choice of variables to be included in models; assigning probability distributions to possible future scenarios with any confidence gets more complicated-.\_She further noted that unexpected events can impact policymaking with significant social and political implications, and these events offer little or no scope to respond from history or experience. Also, while uncertainty often arises due to imperfect information, the available information is also prone to multiple interpretations and diverse perspectives. She also highlighted that the policies could address deep uncertainty and we must be planning for the worst case scenario. The speaker reiterated resilience that accepts the likelihood of an adverse future but focuses on quick recovery. Also static robustness that targets at reduction of adverse impacts across a range of possible conditions are not to be neglected, that is the dynamic of robustness which allows policy/plan to change over time as the conditions change is to be duly noted. Similarly, strategic foresight is one of the emerging methodologies to integrate multiple

perspectives and methods for identifying current and emerging issues and trends and help assess policy options for attaining a desired future.

Ms. Nair also highlighted some points of uncertainty and adaptation policies. She began her ideas by stating climate change as a 'wicked problem' with multiple perspectives regarding the issue as well as potential solutions. She mentioned that adaptation can present a complex policy problem as it requires formulation of policies with potentially long-term consequences on the basis of incomplete knowledge and uncertainty in the current period. Also, given the likelihood of non-linearity in the future climate, the impacts associated with climate change may be manifested to varying extents but in failing to correctly identify the bounds and range of these uncertainties is a major cause of policy over and under-reaction. The sources of uncertainty in climate assessments such as lack of data or lack of agreement on results, statistical methods, error of measurement, approximations, subjectivity in judgment, human behaviour, errors in model structure & values of parameters, likelihood of change in parameters from historical values, differences in concepts and terminology, choice of spatial/ temporal units, assumptions etc. are not to be neglected. Moreover, the sources of climate projections and impact assessments, uncertainty gather and often magnifies through a "cascade of uncertainty" and hence characteristics of the aggregate distribution might be very different from the individual components themselves. However, when the policy problem is politically sensitive policymakers tend to prefer innovation along the way, after little if any initial planning and analysis and under climate uncertainty, while delaying action/ maintaining status quo might seem logical, there could be opportunity costs of not being early adopters of relevant adaptation strategies or 'lock in' of long-term risks, which may be costlier and more difficult or impossible to correct in the future. Furthermore, the speaker raised question on determining 'how much adaptation is enough' to match the scale of change in the climate and associated impacts is an ongoing challenge. Also, she stated that the climate adaptation literature has largely focused on policies and programmes for "accommodating change" rather than processes for "consciously creating alternatives" in an anticipatory manner and that the policies and programmes that are designed to reduce the vulnerability to climate risks without considering the diversity of risks, impacts and responses in a system can result as being 'policy misfits'. Similarly, she mentioned that the policies are unable to function effectively under dynamic conditions and uncertainty, are often unable to achieve their intended goals and can also hinder the ability of societies to adapt to the changing conditions. Moreover, there are also limits to adaptation because of lack of financial resources for adaptation implementation, institutional barriers and also limits to 'how much' social and biophysical systems are capable of, or able to adapt.

The speaker further explained about the approaches taken towards adaptive policies. She stated that the assumption-based planning which aims at planning to protect an existing plan from failure in the event that any of the key assumptions on which the plan was based were to change. The robust decision making that can be used to develop a new static plan that is robust which functions well across a range of plausible futures and that the adaptive policymaking focuses on

monitoring and adapting to changes over time to prevent the static plan from failure. She also highlighted the aadaptation tipping points which is a static approach that helps identify the conditions and time frame beyond which current policies/plans do not continue to function effectively. Similarly, the adaptation pathways that is an extension of adaptation tipping point approach by generating an alternate route for continuation of the policy/plan in a new form to achieve the initial intended objectives and the dynamic adaptive policy pathways that combines the adaptation pathways and adaptive policymaking to identify alternative options over time across a range of plausible futures.

Ms. Nair also provided with an adaptive design and assessment policy tool that produced two assessments. The gauges with the ability of existing policies or programs to support adaptation measures undertaken in response to the specified stressor by the policy target groups and the assesses that the general adaptability of the policies or programs themselves, i.e. whether they are likely to respond well under the influence of the defined changes as well as under unforeseeable changes in the future?"

Furthermore, the speaker stated that the policy researchers have been working to reduce uncertainty and have been carrying out policy experiment under uncertainty. She explained about the experiments that have helped policymakers to diversify policy responses and thus spread risks, as a source of evidence for policymaking and facilitate transitions under high uncertainty. Similarly, under high uncertainty, experiments can help test the design, suitability and acceptability of plausible policy solutions. Policy experiments also hold an immense potential to aid adaptation policy design under uncertainty and ambiguity and the policy designers however need to recognize the level of uncertainty in the policy environment, stakeholder perceptions, scale issues and the role of continual monitoring and social learning over time. The speaker also elaborated about the planning for incremental and transformational adaptation at low levels of changes in the climate, adaptation action might simply be of an incremental nature. At, the higher levels of climate change, transformations may be required; when vulnerability of certain regions, communities or resource systems becomes extremely high or climate change becomes so severe that the impacts cannot be managed by even the most robust strategies. Moreover, under conditions of high uncertainty incremental approaches are better able to address political conflict and deploy policy responses to adapt to the problems "we know we have now" and can control while "factoring in a margin for them becoming worse and when given the high costs of some transformations, uncertainties of risks and benefits, leadership and availability of acceptable options and resources for actions are critical. The switch to transitions and transformations can be facilitated by incorporating these into the suite of risk management strategies early on, which can also help "accommodate the long lead-times on associated decisions and actions".

Ms. Nair concluded her presentation by giving brief summary and some points for discussion. She stated that the policies can be designed to address varying levels of uncertainty along a spectrum moving from limited knowledge to deep uncertainty and the presence of multiple terminologies and concepts related to uncertainty mandate the sources of uncertainty, policy models, choices, assumptions and trade-offs in adaptation decisions should be made explicit for evaluation purposes. Similarly, a key challenge in evaluating adaptation strategies for their effectiveness is that its impacts may be felt decades or more after their implementation and with the rising uncertainty, the level of knowledge about the system decreases and this may limit the suitability of policy solutions to address specific policy problems and result in solutions that are ineffective or even counter-productive. Moreover, the role of monitoring and learning is critical to design effective adaptation strategies and the concept of adaptive policies though wellacknowledged in theory need to be operationalized by application of adaptive policy tools in multiple policy contexts. The policy experimentation can be leveraged as a useful tool to explore effective adaptation options under uncertainty, though means for scaling up of positive outcomes and learning aspects in a useful manner need to be evaluated and the choice and mix of incremental and transformative options for effective adaptation needs to be carefully considered.

#### **SESSION 2**

# SPEAKER 1: Mr. Abu Wali Raghib Hassan, FAO on Behalf of Government of Bangladesh.

The session chair A A Nambi introduced the panelists from the Governmental sector to the participants. The beginning presentation was from Mr. Abu Wali Raghib Hassan of FAO on behalf of the Government of Bangladesh. The speaker mentioned that the government has drafted a roadmap for national adaptation for sector policy and strategies have been revised taking climate change into consideration. This development has led to the drastic increase in the projects, farmers and their production. Mr. Hassan highlighted the major focuses of the government which is adaptation to climate change rather than the issue of climate change. The speaker shared that the focal points from each ministries have been selected and the government has dedicated new wing for climate change cell.

Mr. Hassan also pointed out the technical support the government of Bangladesh has been getting from the institutions and the agencies. Pointing out the negative aspects that the government has to face, he mentioned that the government has to follow the planning commission where they have teams but the team members do not have specific information about climate change. Also since the government has to go through the planning commission, the lacking of fund from the donors to carry out the base mark for the survey activities is another problem.

The speaker also mentioned that the datas required for the project formulation on the policy level are all secondary data. Moreover, in the department, dissemination and capacity building is found to be very poor from the government side. This is another problem which is hindering the government to prepare good projects. Similarly, there is no good coordination from among the NGOs and the government. The availability of location specific data is nominal when preparing

for any project. On the contrary, the government has been getting constant support from the universities for the disaster risk reduction. Here, the speaker provided with an example of CGIS. This particular project has been receiving support from various donors and hence various mid-term evaluations have been carried out from time to time. Monitoring the project is also a vital component. If there is less monitoring then the funds might be misused and hence outsourcing monitoring is to be prioritized.

Mr. Hassan emphasized on the sharing of the knowledge of the local people with the stakeholders and vice-versa who are involved in the project. The stakeholders might have a good understanding of the climate change but the local people have location specific knowledge. Also, the stakeholders must have link with the researchers and other stakeholders for the methodology and adaptation techniques. Finally, he concluded by stating that information dissemination is very important for the grassroots as well as other levels. He highlighted that the problem is with bureaucracy as the duration of a single project is only 1-2 years.

#### SPEAKER 2: Mr. Gyanesh Bajracharya, Team Leader, PPCR, Nepal

The speaker Mr. Gyanesh Bajracharya, the team leader of Pilot Program for Climate Resilience (PPCR) Nepal initiated his presentation by stating about how the previous speakers had addressed to the different questions and apologized that he hasn't done it that way. His project is a 5 year long project which has reached halfway so far and the result is yet to be endorsed so the findings cannot be claimed. PPCR stands for Pilot Program for Climate Resilience and with a brief review of PPCR-3, that is the third program of the PPCR and the title is 'Mainstreaming Climate Change Risk Management in Development'.

Mr. Bajracharya mentioned about how they are advancing in the project and hoped that it would provide us with the insight. The support for the project is from Climate Investment Fund (CIF) which supports 48 middle income and developing countries to mitigate and manage the challenges of climate change and they have two main components or funding, one is clean technology fund and the other is strategic climate fund. Under the strategic climate fund they have pilot program for climate refugees in which Nepal is also a member. Nepal came up with five strategies known as SPCR: Strategic Program for Climate Resilience and the climate investment fund (CIF) will look at it as PPCR. The five strategies are termed as components and they are:

Component 1 is the Building Climate Resilience of Watersheds in Mountain Eco Regions. Lead Agency for this is Department of Soil Conservation and Watershed Management and the donor partner is ADB with a total budget of 30.11M USD.

Component 2 is Building Resilience to Climate Related Hazards. The Lead Agency is The Ministry of Agriculture Development/Department of Hydrology and Meteorology and the donor partner is World Bank with a total budget of 31.3M USD.

Component 3 is Mainstreaming Climate Change Risk Management in Development (Er. Gyanesh Bajracharya/Team Leader). With the lead agency: Ministry of Science, Technology and Environment (MoSTE) and the donor partner is ADB with a total budget of 7.163M USD.

Component 4 is Building Climate Resilient Communities through Private Sector Participation. The donor partner is IFC (International Financial Corporation) with Total Budget: 8.73M USD.

Component 5 is Enhancing Climate Resilient of Endangered Species (withdrawn at the moment) where the Lead Agency is the Department of National Parks and Wildlife Conservation/Department of Forest and Donor Partner is WB (World Bank).

Therefore, the focal party in Climate Change Result management is The Ministry of Science, Technology and Environment (MoSTE). Mr. Bajracharya explained the participants that in an ecosystem based adaptation program the lead ministry is the department of forest/Ministry of Forest and Soil Conservation and Donor Partner is UNDP. Likewise, in Community Based Flood Risk and GLOF Risk Reduction Program the lead ministry is Department of Hydrology and Meteorology/MoSTE. Similarly, in NCCSP (Nepal Climate Change Support Program), Lead Ministry is MoFALD, MoSTE and Donor Partners is DFID, EU.

The speaker then mentioned about PPCR3. The leading agency is MoSTE and the head is PPCR, whereas the funding agency is CIF and the administrator is ADB. He further elaborated that the budget goes to ADB and it provides to the project. The project number is: TA-7984 and have a steering committee chaired by the secretary of MoSTE. Under screening committee they have National Project Director (NPD) who is Joint Secretary in Ministry and under him there are 3 NPM (National Project Managers). The whole project was started in March 2012 and will run till January 2017. The TA team has consulted the ministry for the whole project. There are the committees and the chair person is MoSTE and members: Joint Secretary, Ministry of Federal Affairs and Local Development and there are so many people forming committee. Moreover, the expected impact of PPCR3 is that Nepal has increased resilience to climate variability and climate change and the expected outcome is government infrastructure development programs, policies, and projects incorporate safeguards to address the effects of climate change. The main focus of the project is to make the infrastructures and development component Climate Resilient.

In order to mainstream the climate risk management in development, the project team has come up with three outputs (sub strategies). The first output is the climate risks are integrated into Nepal's development planning and implementation of development projects, which is purely infrastructure oriented. And the second output is developing and applying a knowledge management tools for climate change. They generate knowledge management tools and we try to apply them so that people are very well aware of Climate Change effects. And the last output of the project is that the outputs and lessons from the SPCR and other adaptation programs are managed for results and incorporated into Nepal's climate change programming. Whatever learning they have from output 1, output 2 and other lessons regarding this climate change, they all keep those lessons with us. So people can get access for utilization. So altogether they can see that Climate Change Risk Management in development mainstreamed in holistic manner. The total budget allocated by CIF is a grant of 7.163M USD.

Output 1In the first output, climate change risks are integrated into Nepal's development planning and implementation of development projects, it purely addresses the infrastructures. The main objective of the output is to support the implementation of Nepal's Climate Change policy, develop and document the sector specific knowledge and case analysis, review the existing sector policies for climate change, incorporate Climate Change risk management into sector guidelines, manuals, and standards. Moreover, training and sharing knowledge on climate change risk management is also from among them. They also give training on capacity building of government officials of relevant departments about knowledge of the Climate Change, vulnerability assessment and adaptation planning. Some other objectives are developing data support infrastructure for the implementation of climate change risk management from all the learning and research/studies, preparing 20 project concept notes for climate change related projects and 5 detailed project proposals and also we are asking department to come up with the new proposals and establishing overall climate change risk management system.

#### Core Group Approach

The working linkage of the project is done by several departments like; MoSTE (Ministry of Science, Technology and Environment); DHM (Department of Hydrology and Meteorology) as source of required data to compare parameters of climate change (rainfall/temperature patterns); Ministry of Federal Affairs and Local Development (MoFALD); Department of Road (DOR), Department of Irrigation (DoI); Department of Water Supply (DoWS); Department of Urban Development and Building Construction (DUDBC); Department of Water Induced Disaster Prevention (DWIDP); and Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR). 5 people from each department were selected and a team is formed for the project. When looking at the core group approach, they have a core group with 5 people from each department. There are 75 districts and they have selected 8 districts for such that they have different ecological and topological structure - Trans Himalayan, Mountain Region, Inner Terai and Terai region.

SN	Deliverables	Progress to date	up
1.	District Sector Profiles: 8 Case Study Districts	Done	
2.	Institutional Analysis: 10 Agencies	Done	
3.	Baseline Reports and Vulnerability Assessment and Action Plan (VA &	Done	
	AP) Reports on sector assets in Case Study Districts		
4.	Climate Change Threats Profiles: 8 Case Study Districts	Done	
5.	Development of Result Management Framework	Done	

So the progress of output 1 is that we have district sector profiles as follows:

6.	Incorporation of CC components in existing sector guidelines/manuals	In Process
7.	Concept Notes on 20 Projects	In Process
8.	Detailed Proposals of 5 Projects	In Process

**Table:** Progress of Output 1

Then in process findings and output of studies are still to be incorporated in the guidelines. And it's in the process of endorsement by the 10 committee of government.

#### Output 2

Similarly, when talking about the second output, Knowledge Management Tools for climate change, the team has tried to do in a holistic manner and district level training on climate change is provided to 30 districts where people can be aware of climatic issue and to adapt at local level. Also they have curriculum in local school and university so that students when they become citizen would know about climate change. Similarly, the project offers climate change research grant program to support NAST. The speaker also stated that they have studied on Indigenous Adaptation Practices and the report will be published soon. Moreover, they have web site of communication and knowledge management and are producing communication materials like brochures, posters. In a holistic manner they are trying to see that people are made aware of the climate change issue, so that they can implement their knowledge for adaptation.

#### Output 3

The speaker also described about the third output where all the data, results and knowledge are together in a web portal. The data will be accessible to the related people. Through MIS they will be uploading all the data and those three outputs will mainstream the climate change risk management in infrastructure and development.

#### SPEAKER 3: Mr. Naresh Sharma, Under Secretary, MoSTE, Nepal.

Mr. Naresh Sharma of MoSTE, Nepal addressed the questions that were listed. He mentioned that the government's approaches to ensure adaptation projects have been successful. Nepal being the most vulnerable country of the climate change impacts, it is critical for people to cope with the challenges. The Government of Nepal (GoN), keeping this in mind prepared NAPA in 2010, to prepare and develop country capacity and assist climate vulnerable communities and build resilience to climate change impacts. Furthermore, he provided with the fact that the government has been addressing the climate change policy and is allocating more than 80% of climate change budget to the local communities for adaptation activities.

The GoN approved the national framework on LAPA on November 2011. Inorder to implement NAPA and integrate adaptation option to develop planning processes. He stated the LAPAs were prepared with an aim to build an integrated framework in terms of planning of adaptations, needs, options and priorities. He highlighted the aspects of LAPA which focused more on local communities, their needs and issues. Also he stated that the government believed in being people

centered and people driven adaptation actions which will be effective in addressing the climate change challenges.

In terms of addressing the question, the speaker gave some examples showing the approaches which the government has taken to make adaptation action successful. NCCSP (Nepal Climate change Support Program) is an effort which contributed to NAPA goals and is designed to implement local climate adaptation plans in 14 districts of mid-western and Far-western development regions of Nepal. The program is targeted to reduce climate change induced vulnerability of one million people and provide 0.5 million people access to climate resilient adaptation technologies and services.

The DDC of MoFALD is the nodal agency for LAPA implementation which is responsible and accountable for coordinating, monitoring and reporting program activities. Also, the district energy and environment unit which is within the DDC has already been upgraded to District Environment, Energy and climate change section which includes climate change as an integral part of DDC and has agreed to coordinate and manage climate change related programs on a long-term basis.

Along with the monitoring committees, the government has established District Energy Environment and Climate Change Coordination Committee (DEECCCC) and Village Energy Environment and Climate change coordination committee (VEECCCC) which has been fully functional to implement and promote adaptation and resilience measures in the 14 program districts. These mechanisms review LAPAs activities, coordinating, implementing and monitoring and are also responsible to ensure climate change issues are mainstreamed into local planning process.

He also stressed that if people suffering from climate change impacts are engaged in addressing the issues, then they will succeed today or tomorrow through enhanced learning and hence will benefit from adaptation intervention.

On his views regarding the governments' point of view on adaptation effectiveness, Mr. Sharma verified the question by stating some examples of climate resilient physical infrastructures which have decreased vulnerability to hazards and provided protection for personal and valuable assets. Stating some positive results, he emphasized on the fact that the people and the community have developed confidence and a sense of security due to their increased knowledge on climate change, vulnerability and risk reduction and have acquired skills to adapt to climate change effects. He stated that there has been visible improvement on health, nutrition and hygiene. Also climate vulnerable people have been earning extra income through increased agricultural productivity, diversification of livelihood options and access to technologies. He also shared some of his experiences where when visiting the field areas of the project at the beginning people asked for development but as the project moved on they started asking for LAPA instead of asking for development. Moreover, he stated that the institutional mechanisms (DEECCCCC,

VEECCC and MEECCCC) have provided a platform for relevant stakeholders for reviewing, coordinating and facilitating the LAPA implementation.

With the recent initiative from the GoN in channeling fund for adaptation through climate change budget, it is expected to track climate expenditure and make adaptation actions beneficial. He hoped this workshop would share its effective outcomes to the local people.

While pointing out the problems which the government faces, the speaker talked about the project location sites which are located in geographically remote and harsh weather conditions which further leads to high human resource cost, monitoring difficulties, logistics, retention of staff, reporting and reduce the actual implementation period of 12 months to 8 months. Also, he mentioned that identifying and prioritizing the climate change actions isn't an easy task. Working in this particular area Nepal's NAPA has linked adaptation with development agenda and the LAPA has significantly contributed to identifying, prioritizing and implementing action through a structured framework. Moreover, the Government of Nepal has been managing to overcome these conditions by both capacity and human resource development for the effective implementation of the adaptation activities and develop effective mechanisms. Also, a database management system based on individual households with unique codes for tracking vulnerable communities which have been benefited from adaptation interventions is entered in the Management Information System (MIS) within NCCSP.

Information and skills requirement:

The information and skills requirement when discussed by Mr. Sharma mentioned that the early warning system is essential in generating and spreading timely warning information to the poor and vulnerable people and enable the communities which are threatened by a hazard to prepare and act appropriately and timely to reduce the possibility of harm, loss and damage. Moreover, he highlighted the need of human resource with specific knowledge on climate change, vulnerability and adaptation at the local level particularly through multidisciplinary experts such as having knowledge about socio-environmental interaction. Also, enhancing knowledge and skill of the community to improve their adaptive capacity and ability to climate change is usually important. Similarly, regular tracking and monitoring of the program is vital to track the effectiveness of the implementation of LAPA.

The speaker concluded his words by again pointing out that the adaptation action might differ from location to location and is challenge specific. The climate vulnerable communities might require different skills and information so we need to work on this problem so that the information can get to the poor and vulnerable people and the vulnerable people can graduate from this level.

#### SPEAKER 4: Mr. Purushottam Ghimire, Joint Secretary, NPC, Nepal.

Mr. Purushottam Ghimire, Joint Secretary, NPC, Nepal began his presentation by answering first from the global perspective. With the elaboration of datas from past that is from the beginning of the Stockholm conference till the CoP-13, he stated the fact that Disaster Risk Reduction and Adaptation isn't going hand in hand. From each and every aspect we are vulnerable to flood, landslide, earthquake, drought and many more other disasters. He reiterated that the government of Nepal has keen focus in the issues of climate change and major share of the budget has been allocated for climate change.

Providing the answers to the question, he addressed by stating the fact that adaptation should be the mainstream which is found to be lacking in Nepal. From the policy level, the issue of disaster is more highlighted. Moreover, the evidences which are already available are scattered and needs to be consolidated. Mr. Ghimire also pointed out that the information obtained by various projects from various organizations are available but the information has not been shared to all. The use of technology, how do we transfer the technology to the national perspective were some of the key questions which the speaker asked the participants. He emphasized that from among the major aspects in climate change and adaptation, finance is an essential element which cannot be neglected. Furthermore, he highlighted his points on the works he did for the PPCR and its selection of Nepal and Bangladesh by the Climate Investment Fund (CIF).

From among the selection of districts by the NAPA, pyuthan has been neglected. He explained to the participants that the districts selected by NAPA from among the 75 districts in the country were those which were most vulnerable and were at high risk. Till date the implementation framework has been used as the guidelines for the projects. But due to the lack of coordination among the ministries the projects have been lagging behind. The capacity building has to focus on the central level or else the policy makers will be overloaded.

Finally, he concluded by clarifying that we must be prepared for loss and damage. Huge amount of fund has to be prepared in the economic sector for climate change for agriculture, energy and climate change and focus is to be given to the community level and the target group is to be made clear. Also study is to be carried out in other sectors as well.

#### **Group discussions:**

- What is the monitoring plan of LAPA?
- The panelist said that before starting the LAPA project they had baselines and with that baseline they had managed to develop Management Information System (MIS). It almost took 18 months and far but the early reason shows that they are on the right track. After completion of fiscal year they would talk more about the process in detail.
- Do you have any indicators concerning private sectors involvement in the process?
- ➤ The panelist replied that being a South Asian so far there has been no response from private sector for the poor and vulnerable people. For climate change, there lot of

initiatives to the private sector in Nepal. Another panelist answered that there are private sector involved in the project and that they have given assurance to the farmers and there are mutual relationship between the private sector and farmer.

- NPC is dealing with Climate change adaptation and disaster risk reduction development planning process. And since the planning is going on, there are many planning processes in VDC level like LAPA. So, is there any process to harmonize those frameworks and make a single framework?
- The panelist replied by stating that there are already many VDCs in the process of LAPA planning. The government has already expressed that they should be together for this matter and think about managing this in the next meeting for the fact that we should have at least one framework so that at least a single plan can be developed using the framework.

#### **SESSION 3**

#### **SPEAKER 1 A.Gurunathan, Dhan Foundation, India:**

Mr. A Gurunathan from Dhan Foundation, India elaborated their mission to improve poor communities and their livelihoods. He stated their attempt through thematic effort which started working from grassroots in India from 90's. He further stated his works in ICT and development education and elaborated his implementation of three projects namely climate change adaptation, youth development and migration development. Mr. Gurunathan emphasized on water being highly affected by climate change especially in India where people depend on rainfall as a source of water from monsoon.

The speaker mentioned the Conservation International as it stated that "Climate change will significantly impact freshwater ecosystems and the people and biodiversity that depend upon them for their survival". In India especially in South India where lots of infrastructures were constructed by their forefather they are termed as irrigation in the time back. These times were highly affected because they store freshwater from monsoon and the capacity of tank has been noted as being reduced because of siltation and other issues. So, in that perspective the conservation international has been working in the field of water. He further concisely informed all that we have known that the impacts of climate change as the temperature rise, sea level rise and impact on health and forest, natural resources, coastal areas. But in his country from 1970 there is an increase of temperature and about 14.5 percent increase in the number of incidents of extreme rainfall during every decade in the past 50 yrs.

Furthermore, in India there are about 500 thousand irrigation systems in which 60% of minor irrigation tanks are in South India alone. The government is also spending 2% of the gross domestic product (GDP) on adaptation measure. Knowledge on adaptation is shared and learned from and to a community. As an example, the speaker illustrated about a GIZ project which they

implemented in three villages of Madurai district. The locals could detect whether or not it would rain based on the direction of the wind in the past but now due to the climate change and the uncertainty of weather the locals are unable to predict the rain. Similarly, people in the past in the villages of India used ground wells for water and could get water easily as the water levels were high but these days the water level has decreased considerably and it is difficult to have access to water.

Mentioning about the carbon foot print of India, the speaker mentioned that India is the world's 5<sup>th</sup> largest greenhouse gas emitter and also per capita emission of India is 1.67tonnes/year which is 70% below the world average. The Government of India has established measures on adaptation and have set up 130 agro-meteorological field units in 83 agro-climatic zones in the country to give "agro-met advisory" to the farmers. This means that the farmers are being given forecast information through the ICAR and its network. Also IIT-Delhi is using models to give long term weather information which is three months in advance and has been working with numerous NGOs. Similarly, Mr. Gurunathan stated that unless action is not implemented in the under-privileged communities, changes that are expected will not occur. So, to whom these NGOs are working (landless agricultural farmers) they organize them into social capital, village level association, women self-help groups and through the micro finances they try to make a model which will be able to manage climate change The simple methods used to cope with climate change for the vulnerable communities has been migration and hence they all migrate to the urban areas and live in the slums. When looking from this aspect they are also generating lot of waste water which is dumped in water bodies.

In addition he stated that their community is taking some adaptive measures such as conservative use of surface and ground water by utilizing tanks and community well. Here, the community has decided that they will not encourage the farmers to go to individual wells rather they go for open well and when there is difference onset of monsoon, they can use ground water for land preparation or agricultural operation and in remaining times they can use surface water. In India there is hydrological link through the change due to rolling topography. When upper tanks get filled then the excess water goes to the lower tanks so chain of tanks are available which is the excellent way for adapting. The speaker further stated that there were no institutions as it was all managed by the village communities. Normally in rainfall monsoon, the people in the community don't use water for irrigation from the tank and use rain water irrigation. Only after monsoon when there is need they use the tank water. Drought and floods are the natural phenomenon occurring again and again. So the adaptation in natural or human systems is a response to actual or expected climate stimuli or their effects which moderate harm or exploits beneficial opportunities.

Mr. Gurunathan concluded his presentation by reiterating his suggestions which were from his experience that the action needed by the community and their social networks is to go for fundamental role to overcome the problems from drought like condition. He elaborated that they need to go for better management for natural capital by way of restoring functionality. The

measure that the government should undertake is to mainstream the climatic issues. The government has to follow the policy and then come up with plans to sustain climate change adaption. Furthermore, he highlighted that an adaptation can be known as effective when it has been repeated by the community. Finances and capital is the issue so the development of product has to be based on both the grand and long term based products which can conduct such interventions. The speaker mentioned the limitless obstacles when working with the government as there are lots of restrictions from their side. Similarly, he suggested that based on their experience, the information produced is limited and until and unless they go for an attitude change the success is limited.

#### SPEAKER 2: Neera Pradhan Shrestha, ICIMOD, Nepal

The speaker Ms. Shrestha started her presentation giving a brief introduction about ICIMOD. It is an inter-governmental learning and knowledge sharing center which comprises of the regional member countries that lies in the Hindu-Kush Himalayan region. The speaker spoke about the tools that have been used in adaptation planning. She discussed about the key issues that is dealt by ICIMOD and they are glacier melting, erratic & irregular rainfall patterns, longer dry spells, food insecurity, negative health impact, loss of productive lands due to floods, flash floods, landslides etc., drying up of natural springs and water sources, human mobility and many more. The speaker highlighted that people are already adapting to changes and as a science based institution, the information provided is evidence based. The speaker addressed the participants by asking a simple question, "How can we be ensured that we can adapt" to which she herself answered by ensuring effective adaptation. Furthermore, she pointed out the fact that the indicators can be different in different places. The organization believes in better tools for knowledge management and dissemination. She shared the tools which ICIMOD has been using and that is:

Adaptation: Series of tools have been compiled together from among 3 countries. They have used PRA tools and then came up with the impacts the communities have observed in the past decades. She also highlighted that documentation is very important so that it is not repeated again and again.

Learning Highway: The other tool is platform where the information is exchanged at various levels. The speaker highlighted the importance of working together with other communities.

While explaining about the learning highway, the speaker justified it as a flexible flood planning system. In the path to learning, they first worked together with the communities' inorder to understand them and then only the community based monitoring were done. While getting to know them, they learned that the people from communities have already known that the rainfall has shifted but being a science based institution the key question here is not why, we need to quantify by how much to get the exact answer about climate change. Working with the communities proves to be very beneficial as they helped them as they are aware about at least 3 to 4 indicators.

The next step in their project was to envision the future. They were asked to close their eyes and imagine what your children will do after 30 years from now. They were even provided with the datas from the past and then were asked to figure out a plan for their future. Similarly, a flexible flood management plan has been devised where in Dihiri some communities were asked to give assumptions on the vision of the future. The community came out with an integrated plan and when the same was asked for the government, they came up with a sectoral plan. The community believed in the fact that sectors are important but they are to be integrated, presented their plan to the district level. The district disaster plan by District Development Committee (DDC) then compared their plan with that of the community.

The speaker concluded by giving emphasis on the sharing of the information to the local people. Moreover, she came to a conclusion that adaptation efficiency can be ensured only when the target group is the community level. She highlighted that the points such as to ensure effective adaptation, enhanced awareness and adaptive capacities, informed decision making at different levels (local to national), adaptive strategies based on local needs, responsive governance mechanism, minimizing communication gaps (science-policy-practice) are vital for any project and these cannot be ignored.

#### SPEAKER 3: Sarder Shafiqul Alam, BCAS/ICCCAD, Bangladesh

The speaker started his presentation by giving a brief overview of his country, Bangladesh. Bangladesh is a delta country with 1.72M km<sup>2</sup> of water passing through it. In terms of climate change impacts we know that the change in temperature of the land and sea which will create water problem. He further stated that if the global temperature rises and the ice melts then the sea level will rise and even when the surface temperature increases then sea level will rise and if the sea level rises then the country will be inundated by water and flood. He elaborated that they have been facing such problem for a long time. The speaker mentioned that his country is vulnerable to cyclone in the coastal areas. Moreover, in two different ways his country Bangladesh is prone to both rain and cyclone. In future the people might have to face very huge disasters and hence they must do adaptation.

According to the speaker some say that adaptation is a long term coping mechanism that can reduce climatic disaster and vulnerability to sustain the livelihood activity and ensure food security whereas some say that it is a system or action that can reduce the climate change vulnerability. Mr. Alam mentioned some of his experiences of working with some of the NGOs who are doing adaptation activity knowingly or unknowingly at local level or national level. From among unlimited numbers of NGO, some have intellectual level of knowledge of climate change, some at national level and some local level. As per the speaker, resource, power relationship and control are the major problem in his country. Power relationship is very important factor to control vulnerability and poor people have less power and hence are more vulnerable. Inorder to reduce vulnerability NGOs have been implementing some adaptation

activity. However, when discussing about the adaptation effectiveness with the intellectual NGOs, they say that it can be effective if the plan is considered at local level. Whereas some say that adaptation is sustainable development. If it sustains during the disaster then it is a good form of adaptation. But the views of NGOs are not similar and hence there is gap of knowledge among them.

Mr. Alam briefly stated the approaches that have been made in his country and explained that from the last 15 years being associated with different NGOs related to climate change, the first climate change project in Bangladesh was the RVCC project: Reducing vulnerability to Climate Change. In this particular project, 17 NGOs were involved. He further explained that these NGOs knew nothing about the future planning and they tried only to understand the past disasters and how it affected livelihood and how the communities coped with it. When they were asked about identifying the indicators then only some activities have been implemented for the identification of the indicators. When in the process of the development of indicators with which they could monitor adaptation effectiveness; a two day workshop was carried out. In the 3 years of the project, it was in succession but it stopped as the donor did not extend the time period of the project and unfortunately the effectiveness of the adaptation indicators could not be monitored and evaluated.

With a brief example of another project, Mr. Alam elaborated that the disaster risk reduction and climate change activities have been increasing exponentially. The recent projects have been following the participatory methods for planning of the project. They have been seeking funds from NGOs and the local governments for financial support. Moreover, the local community adaptation plan activity has been developed by the local government which makes the local annual budget. Furthermore, he explained about the research group teams that were hired to do external monitoring and rigorous study. These tasks had been done effectively and the work has been published both locally and globally. But the people in his country gave no importance to it. This problem stated, clearly showed the communication gap between the NGOs and the stakeholders.

The speaker also pointed out the barriers faced by various projects. From among these barriers, duration is the most important barrier as they lack sufficient time to measure if adaptation is effective or not. Also, the lack of information dissemination in both the horizontal and vertical level has been observed. He further stated that adaptation is effective if seen as being replicated. To prove this point he gave an example of a floating garden which is based on local knowledge and to which new technologies could be added. Similarly, he highlighted that if the local community is targeted with no fund is required from other and if they are doing things and practicing something new then that is adaptation effectiveness.

Mr. Alam concluded by briefly reiterating that the good practices in a community are to be carried out as effective adaptation which the governments should support. Moreover, due to the lack of information, fund and knowledge sharing the effective adaptation to climate change is

lagging behind. Similarly for a project to run effectively cooperation from all the levels is vital and hence a good guideline is required to ensure an effective adaption plan.

#### **Discussion Session:**

- Questions: Are we talking about conceptual effective adaptation or measuring the effectiveness of adaptation because adaptation itself should be effective so we should be focusing on measuring the effective of adaptation that can be directed.
- The identification of indicators in adaptation and highlight the difficult or easiness in measuring the successes.
- A.Gurunathan from Dhan Foundation responded that they are part of community institution; their group has monitored by higher level and said how affectingly they were following. The adaptation effectiveness increases when there is increase in the yield or increase in the income of the family members. Monitoring is introduced but it is not followed up continuously after knowing the technology. The other is the ability to replicate as one of the success factors of the effectiveness measures. Many times the finances are one of the bottlenecks. So he questioned how they can make finances available in the program not necessary in grand based as it has its limitation so how do they make access to the resources for the adaptation. This is their experience.
- Sarder Shafiqul Alam from BCAS/ICCCAD replied Adaptation means to reduce CC vulnerability and impacts. The effectiveness is almost similar. Adaptation should be specific and it should be replicable and it should be accepted and measurable but he said that there is lack of experience. For the other question he replied that indicator from NGO point of view, they get some fund after submitting some proposal. In the past their target was poverty reduction. If they do not have adaptation ability they are not going to get fund in the future, so many NGOs go for adaptation measures and they had some indicators in baseline for monitoring. There are some indicators but it should be global standard then it is called adaptation effectiveness indicator.
- Neera Pradhan Shrestha from ICIMOD replied that from research perspective whether they are talking about effective adaptation strategies or indicator which is very important. Indicator can be different for different projects. However looking at their work they have done with the partner's one of the major indicator effective adaptation is how to scale up and scale out. If it's working in the ground then certainly people will scale up and scale out. For e.g. ICIMOD is working in Assam together with their partner in community based early warning system. So they developed the system and its working well and it's in the ground level because the community itself says that it is actually helping them to prepare for flood. She said that they also have received award for that project. They have been approached by different NGOs, communities so that it can be replicated at different levels and they are doing it now in Afghanistan and Nepal also. This is the one way of measuring the effectiveness.

#### **SESSION 4**

# SPEAKER 1: Mr. Ngyuyen Xuan Hien, Southern Institute for Water Resources Planning

Dr. Ngyuyen Xuan Hien of Southern Institute for Water Resource Planning started his presentation by introducing the Mekong delta as one of the most productive agricultural lands. But the communities in this area are facing many problems mainly due to integrated water resource management along the river basins in upstream. Major integrated water resource management issue in Mekong delta are upstream developments, delta development, flooding and inundation, drought and salinity intrusion, acid- sulphate soils, water quality deterioration like pollution from aquaculture systems, loss of wetlands and forests, erosion and sedimentation, land subsidence and climate change and sea level rise (SLR). Inorder to develop the upstream, the people in Mekong have established hydropower dams among which 8 is in upper Mekong (CHINA) and 11 in lower Mekong (Lao, Thailand, Cambodia).

Similarly, the speaker highlighted some important datas about the Mekong delta. There is always an increase in water abstraction. The Mekong delta land elevation is from 0.3 to 2.0m and its air temperature is about 26 to 27°C. Annual rain is from 1200 to 2400 mm. The 90% of rainfall is from May to November and rest 10% is in dry season from December to April. The salinity intrusion in the Mekong Delta is in 1.4 to 1.6 million ha of land, its length (4g/l) is from 40 to 50 km and it has 2 to 5 month duration and the high salinity intrusion were in 1998, 2005, 2007, 2010, 2013, 2015. Moreover, the acid sulphate soils in the Mekong Delta are in 1.4 to 1.6 million ha of land. In dry season there is less water in surface of land. The problem soils are 0.8 to 0.9 million ha and its duration is 3 to 6 months.

Dr. Xien further mentioned that the people are facing climate change problem. World Bank reports that Vietnam would be one of the most severely affected countries in the world as a result of sea level rise. Elevation of Mekong Delta is very low and by looking at the past trend we predicted the rise of sea level by 2050 will be 30 cm. They also have made model application which is named as SWAT for rainfall-runoff model, IQQM for Basin water balance model and VRSAP for hydrodynamic model. Further, for schematization they have the entire Mekong Delta from Kratie to the sea. Also they have 4019 segments, 2380 nodes, and 1235 storage plans. The speaker also mentioned the positive impacts from climate change such as an increasing land area of gravitational irrigation, reducing acidity, etc. For adaptation initiatives the people in Mekong delta understood a sound way of the impacts from basin development and climate change-sea level rise which is difficult issue. In order to militate against and adapt to basin development and climate change, they need to apply a combination of structural measures. A good combination of structural measures and non-structural measures will increase benefits and decrease investment cost.

The speaker mentioned that for structural measures, they had made use of existing structures, which were heavily invested, without creating any conflicts with long-term solution for the

future like for rice production. To ensure sustainable development, proposed solutions should also maintain and develop the diverse ecosystem of Mekong Delta. Dr. Xien also explained that for flooding, floods have both positive and negative impacts. The strategy for flood management and mitigation is "Adapt living with flood". So, for salinity intrusion they upgraded water control projects in Gò Công, Bến Tre, Nam Măng Thít, QL-PH, TGLX etc. Further, they invested to build resettlement areas infrastructures, roads etc. to be suitable with the impacts.

The speaker concluded by restating that for non-structural measure they protect and develop coastal mangrove forests, especially protected forests to reduce impacts and to protect the environment. They also selected cropping calendars; cropping patterns, crop varieties, and crop diversification etc. which when taken into account are likely to be effected by the climate change impacts. Moreover, using irrigation water more efficiently there is an increase in searching for more measures to create and exploit additional sources of water in dry season. Development of a highly adaptable and strategic master plan for Mekong Delta in short-term and long-term is essential. Similarly, developing and improving legal system on water resources management and prevention of damage caused by water cannot be neglected. Dr. Xien also stated that all stakeholders should incorporate their contributions to the adaptation and mitigation initiatives. And for non-structural measures, the adaptation initiatives that are applied are rice-shrimp cultivation, fruit-shrimp cultivation, and forest- shrimp cultivation. He suggested that for sustainable development we have to harmonize society, environment, water resources, economy. With a close cooperation among all riparian countries and valuable supports from donors, they would be able to meet a sustainable development for the Mekong River Basin that increases the benefits to all the Mekong people.

#### SPEAKER 2: Dr. Pham Van Song, Thuyloi University.

Dr. Pham Van Song from Thuyloi University highlighted about the Mekong delta, its structure and adaptations and about the flood simulation. He briefly introduced about Mekong deltas, the lowest part of Mekong Basin which is located on the southern coast of Viet Nam. The delta includes 3.9M ha under cultivation. This delta is the largest fishery and agricultural production zone which supports millions of people living in delta. Hence, it plays a vital role in the Vietnam agricultural economy. Furthermore, he highlighted that the climate change research in Mekong delta has progressed rapidly in the recent years.

Dr. Song concisely elaborated about the Mekong delta being a vulnerable place where various forms of climate change impacts such as sea level rise, storm surge, flooding, etc. can occur. With a growing population, the most significant barriers to implementing adaptation measures are lack of recognition among policy makers, insufficient data and scientific basis for taking adaptation decision, and lack of sufficient financial and human resources. The study was conducted by surveying in different areas of the delta.

Dr. Song in his study used Villagra's de Leo'n definition of vulnerability which is a function of expose and susceptibility and again vulnerability being inversely proportional to resilience. The

formula used showed decrease in exposure as mitigation and increase the resilience is adaptation. Furthermore, he stated that vulnerability assessment for climate change is a primary step to prioritize and verify the adaptation strategies. He highlighted the two approaches that have been used for the planning and implementation of adaptation that is scientific and regional. Dr. Song in his study used the regional approach where the findings of impacts, capacity building and adaptation planning are done. The vulnerable areas in Mekong delta due to physical and social conditions identified were social vulnerabilities that further included population and poverty. However, no strong relations between damage of the natural disasters and HDI have been found. The speaker provided with the data about the people who were killed by the natural disasters in the past decades.

Dr. Song presented the map of Mekong delta where he showed the disaster profile, inundation area, high profile density and socio economic states that combined to increase vulnerability in the areas such as Bac Lieu, Soc Trang, the eastern coastal area of Ben Tre and the southern part of Ca Mau. With the help of Ibaraki University, Japan, he conducted field surveys of perception and adaptation in 3 provinces of Soc Trang. In his study, Dr. Song did the calibration of the surveys by using an Unmanned Aerial Vehicle (UAV) which was flown about 90m height and investigated the land use such as coastal erosion, mangrove forest and shrimp farming. The survey was done for a short time but is precise for the calibration measures are to reinforce house, heighten the floor, diversify income, sell animal and many more. With the monitoring of the 3 districts in Soc Trang, the priority cases in the survey were carried out where the disaster incidents were perceived as increasing in frequency during the prior decades. Also he provided with the graphs and some examples on how the adaptation measures were taken by the residents.

The speaker in his presentation informed the participants that Mekong delta is considered as one of the most disaster prone and vulnerable areas caused by climate change. With the danger of sea level rise, typhoons, increased rainfall which causes high tides which further together causes subsequent river flooding and inundation. Similarly, vulnerability is assessed to coastal disasters that include physical factors such as sea level rise and socio economic factors. He categorized the vulnerability assessment in Mekong delta as physical and social vulnerabilities. With the use of UAV, when compared with the datas from the past and present, change in land use and coastal erosion was observed. Moreover, there is wide gap between vulnerability and perception and also the fact that flooding is regarded as the most risk was clearly illustrated by the speaker. Dr. Song finally concluded by highlighting the fact that community based adaptation is considered as a very important factor in response to disasters. Also there is a critical need to bring in technical, institutional and financial experts to design climate adaptation strategies that is appropriate for each and every community.

#### **SPEAKER 3** -Dr. Trinh Cong Van, MWI

Dr. Trinh Cong Van stated that the perception of vulnerability seems to be lower compared to scientific study and people are happy in the area because they are unaware about the term itself. The Mekong delta is completely different from Nepal but is similar to the Bangladesh situation. With a brief introduction of Mekong River that has a very low elevation where in future and in spring the low land area are at the sea level. Similarly, Dr. Van talked about hazards and risks and said that they have been facing flooding and inundation, drought and salinity intrusion frequently. The delta has also observed loss of wetlands and forests, pollution, erosion and land sliding and land subsidence. In the coastal region they do not have fresh water so they need fresh water which is the serious problem. Moreover, the speaker mentioned that the people in the delta have a problem of erosion in the river and also the coastal areas. He pointed out that regional planning has been carried out since 2000 and that the delta is divided into 3 different subregions. To the upper delta they have flood control line where in flood season they have flood water up to 3 to 5m, in middle delta they have fresh water control line and in the lower delta there is sea defense control line. As the delta faced flood continuously their strategy was that the people did not have enough food so food security was their priority. By keeping this in mind the people in Mekong delta have maximized the rice production. They have improved their production by maximizing land use for rice, water use for rice and infrastructure investment for rice.

Furthermore, the communities in the delta have built dykes to protect rice from floods and in river bank they try to build heavy concrete structure to protect landslide. Dr. Van cited that Vietnam is still a developing poor country but they do lot of investment and if the farmer produces rice then they are unaware of the future. For resources implementation they are unaware about the future. Under IPCCs recommendation, the sea level in Mekong Delta has both high and low scenarios in climate change.

Dr. Van briefly mentioned about the dependency of the government on policy where in the political policy the decision for adaptation on Climate Change is variable. The Mekong delta plan aims to develop a long-term vision of 100 yrs. for a prosperous, sustainable and safe delta. The strategic long-term vision supports Vietnamese government in developing and reviewing its socio-economic development planning, spatial planning and sectorial master planning for the Mekong delta. Also, the Dutch government sends team for preparation of Mekong delta plan. There is involvement of different Ministries but in practical, it is more complicated working together with stakeholders in developing country like Vietnam. When looking at the future of the delta it looks like they have scenario model which have corridor industrialization, spatially evolving food security, agro business specialization. For corridor industrialization due to lack of integrated planning, the Government of Vietnam has failed to redirect the development of strategy but they have possible solution for future. For exploring the principles and possible solutions for the future, they have various strategies such as the adaptive delta management,

exploring with 'no- regret' and priority measures, identify "tipping points" and avoid overinvestment.

In addition, the Mekong delta has adaptation measures like dyke that reduces flood area and protect rice in the delta during flood season. Some farmers have grown 3 crops that can prevent the flooding which is termed as the adaptive measure. According to Dr. Van, it is better to continue the rice production but farmers want to change their production as they have enough rice and the net income of the farmers is very low from rice in comparison with shrimp.

Dr. Van concluded by prioritizing the lesson learnt from VN Mekong delta which states that as a developing country, Vietnam has difficulties in planning, implementing development plans. The stakeholder involvements in CCA are still difficult due to administrative mechanism, personal behaviors, "group benefit", community participatory is limited in reality. Similarly, overinvestments were done by Government agencies due to non-technical reasons and sometimes they have project and sometimes they do not. Also, the CCA must be considered as not only in National Strategy but also in plan implementations and that they should be planned and invested in community level. Moreover, the lesson learnt from communities by scientists and experts will be sources of information for effectiveness solutions for CCA. The speaker also mentioned that the international supports are very important, not only financial resources but experience sharing, training which is very important for developing country.

#### **Discussion Session:**

- In one of the slides you mention there are no correlation between natural disaster and HDI? What does that mean? Could you explain about that?
- The panelist answered by stating that they had carried out two states of surveys. In Mekong they found out about the correlation. The other survey was a very detail survey and then the panelist found out that there were some differences.
- You mention that acid sulphate soils occur during 3-6 months in a year. How do people cope with that? What are other professions the people follow other than agriculture for their livelihoods in those months?
- With six months of flooding near the area of the boarder of Cambodia, people do other works such as aqua culture-fishing and tourism is also followed as the tourists take boats and travel around.

### DAY II: DRAFTING EFFECTIVENESS GUIDELINES

The session for second day began with the organization of groups by Mr. SVRK Prabhakar. The participants had been divided into three different groups namely researchers group, the non-governmental organizations and the governmental organizations. With a total of 28 participants and the non-governmental organization handling the maximum number of participants, the groups were provided with charts in the boards and the markers. The participants were asked to discuss on the process of developing the guidelines for ensuring effective adaptation to climate change. Also they were supposed to provide a broad framework along which the groups were requested to draw guidelines for ensuring adaptation effectiveness covering each stage of the adaptation project planning and implementation.

#### **Effectiveness Guidelines: Researchers**

Ms. Shreeja Nair

After the discussion was over, researcher group came up for presentation.

#### Suggestions for broad guidelines:

Ms. Shreeja Nair from Singapore National University began her presentation with some questions which had to be answered for the broad guideline. She mentioned her interest to see the difference between how the researchers tend to think of the adaptation and then Government and NGOs. She intended to deliver the suggestions for the broad guidelines, which were aspects that run throughout the project and could not fit in any one stage. For example what is the purpose of conducting an adaptation project, which would kind of determine how the evaluation itself should be like? What determines a project to be designed as an adaptation project? What happens if baseline information of climate changes? The second is involvement of stakeholders like who are the stakeholders and how and what point do they involve? Are the same stakeholders throughout or at what point do they need? Who evaluates the project which is important question like whether Government, NGO's, donor community, independent agencies evaluates. Similarly, she stated that to harmonize all into one is a major challenge and it is difficult to harmonize indicators into a general monitoring and evaluation. Some other questions were raised such as what determines success or failure of adaptation was also the important question that had to be answered. Generally people think that adaptation has long years but it rarely is beyond 5 years. Also she asked when the right time to evaluate is and who evaluates beyond the lifetime? So these are the questions that have to be answered in guidelines.

#### Suggestions for stage-wise guidelines

#### 1. Pre-project:

Regarding the specific stages the speaker emphasized pre-project's vast importance as she mentioned lots of benefits that could be derived with sound planning. She mentioned about what were indicators which could reflect if the adaptation project helped to avoid crossing of critical thresholds? As the incubation period she mentioned that the adaptation project was rather short and when it was the appropriate time to evaluate the project periodicity of evaluation was given priority. As the baseline of the project a decade ago were no longer valid. She mentioned the doubts of its impact in evaluation? What was the moving baseline when the evaluation was taking place? How to integrate climatic information in the design stage? She cited these questions that arose in pre-project. She mentioned the planning and design that were happening at certain level; however implementation were happening at local level. So she queried if the people at implementation level were part of design phase itself and which indicator could capture that?

According to Ms. Nair, adaptation beneficiaries were usually at household/community level. Also, drawing the causal linkage from research perspective, how could someone isolate outcome regarding particular project when one party, especially farmers or vulnerable community, might be benefiting from multiple projects at the same time. Also, during this situation she mentioned that it was difficult to establish the benefit or damage with respect to a particular project. She emphasized on involvement of stakeholders, especially the government, right from the onset. This was the expected ideal situation in theory and she mentioned it was, in practice, difficult to involve all stakeholders at all points of project. She pointed out concerns like what was the plan of action to involve governments at the onset, especially for scaling up also to check the way of engagement of stakeholders and how to really engage government right from the beginning?

The speaker mentioned that there is a need to look at the cross-sectorial linkages and pointed out the fact that there might be several adaptation projects happening at the same place and at the same time. She highlighted that some strategies might increase profit in short term but not in long term. Further, she pointed out the importance of pre-project evaluation to capture the temporal aspect.

She said it was necessary to include process indicators not just outcome, as well as aspects of awareness, political aspects, governance and sustainability. She highlighted the need to include process indicators of the project as there might be better alternative to the current process. She mentioned the debate arising regarding sustainability of project as various doubts and issues arise such as: Is it expected for the project's outcome and impact beyond the lifetime of project and the source of funds to evaluate the project after its lifetime. She also mentioned another concern of prioritizing the indicators during pre-projects; if all the indicators had same priority?

Regarding different indicators, she pointed the concern of quality vs. quantity; the dilemma between capturing all the indicators of the project or rather only the indicators which reflects the quality of evaluation. Moreover, the speaker mentioned that there were also macro level indicators like how many communities were targeted; however all the communities might not get benefited from the program. So she informed that there are different types of indicators with different priority.

Ms. Nair evaluated about some means being assure to quality like the validation by communities could be set in the pre-project phase itself. With an example of India where there are lots of governmental organization embedding adaptation efforts into existing programs she raised the concern of how to tease out its impact separate from the development project of which it had become a part of. These were the pre-project aspects quoted by Ms. Shreeja Nair from research perspective.

#### 2. During the project

The speaker mentioned that once the project is started then there could be some uncertain events occurring which were not considered when the project was designed. She highlighted that one of the challenges is that there are some risks, 1 of 100, which do form part of risk assessment in the log frame of evaluation but are not put in the project evaluation with the fear of not getting funded. She mentioned that in case of such certain and uncertain events, it is difficult to get reliable data during project. She said that when they are in project, things might not actually happen according to the pre-project guidelines. She asked if they could use qualitative indicator to supplement quantitative indicators as well.

She stated that though there is discussion about having local ownership or incentive to local communities' in order to have some stake in the project there arise the question of what kind of incentives and how does that co-ownership come about? Though there are these discussions to engage in monitoring and evaluation, engagement is limited to consultation only which is not thorough engagement. And she raised the concern about the assumption that there are capacities to evaluate well because she mentioned that criteria might have been set in the pre-project stage but when the project really happens, the evaluation might not be accurate enough. Similarly she also highlighted the need for constant interaction of stakeholders.

#### 3. Post- project evaluation

Regarding the post-project evaluation Ms. Nair mentioned that it was still an area which needed more thoughts as very few donors support post project evaluation. She pointed out that generally it was mainly about lesson learning and drawing. She said that though outcomes could be evaluated the impacts could be visible only in the long term which is difficult to evaluate. Outcome and impact are not usually achievable during the short term period of the project itself. So she asked who would invest the money to go back to the field to see the impacts. To which she answered that the way out was to have short term indicator as well as the medium term indicators and long term indicators so that at least early impacts could be monitored.

As the speaker mentioned the projects are usually short run, like 5 years and after which the donors move out or the project is replicated elsewhere. So she raised the concern that had the incentive to monitor the project beyond its lifetime. To which she pointed out the opportunity to NGOs and communities in that area to have the incentive to really monitor the project beyond its designated lifetime.

#### **Question and discussion:**

- From the NGO group and the government group during your discussion, did you ever think that probably researchers could contribute to this particular issue? Have there been instances that government may have done and probably we don't have any information? Probably researchers should work on that or may be NGO's at the any time in future though there should be more research work on this. ?
- Researchers give the knowledge, new methodology and idea. The NGO group and Gov. Group are waiting which mechanism of adaptation or activities are maladaptation and which are not? Researcher should focus on these idea/methodology because Government, NGO's implementing plan cannot decide themselves whether the mechanism is good or not. But the researchers can give them the idea as a thumb rule. So that type of information needs to be incorporated, like what type of adaptation mechanism is maladaptation. Likewise there is lack of climate change information at downscaled level. Climate change issues and climate change projection are generally discussed at global/GCM model and sometimes in RCM models. But researchers can provide with any local knowledge or innovative idea, if there is any and also with the downscaled climate change projections (climate change projections from global to local level).Another concern is about the responsible body for post project phase. Example: a community based hydrology monitoring project is there. But after the project who is responsible to handle scientific instruments? Researcher can give the idea based on the local assessment. These concerns needs to be incorporated from researcher group.
- Maladaptation can be perceived only from direct feedback from the field. These feedbacks are usually missing. Researcher should understand what is working in the field to approve certain tools and methods as good adaptation mechanism. It is kind of two ways process. One should really recognize those elements. Also the NGO should bring those things in attention of researcher who involve in this agronomy. Inside knowledge is always very important to develop any tool. Though some innovative breakthrough ideas might come from one sided effort of researchers, it is always important to have two way communications from the field.
- Projection from 2010 to 2013 is always in the rising field. It may be greenhouse gases or temperature rise. How can we know that when we do the analysis of 2050 whether our

projection is right or wrong? How our projection is working out or not? It would be helpful for our future projection also. We are not getting information of what is happening between what is observed and what we have projected. That kind of information is not brought in any conference.

From the researcher group one of the member replied that they invested more than 50% of time to discuss the first issue, the planning and designing stage of the the project. And one of the point that all the members agreed on is the integration of Climatic information which includes scenario building, downscaling, the current observation and projection. And these climatic information comes from the researches. Based on IPCC Climate Change is a large scale uncertainty. Climatic information needs to be integrated in an adaptation project.

The speaker then talked about the second issue which is maladaptation. Even projects adopted as an adaptation project for certain period might be called as maladaptation, over longer period of about 10 or 15 years when the ecological scenario potentially changes for other reasons. Current practice the Ministry or Government agency may not do all development planning process. So, they also have raised issue of the local government or local communities needed to be involved in planning and designing projects. In Bangladesh they have policy but he asked whether they implement it or not. According to Bangladesh policy, local people implemented adaptation projects and the work was not 100% but at least good.

**Suggestion**: The Government team suggested that in the pre-project they need some climate change impact and vulnerability information which should come from research work and based on that the project planning is done.

### Effectiveness Guidelines: Non-governmental Organization (NGO) Group Ms. Krishna Karki

In this presentation, the speaker from Care Nepal summarized different phases of project.

#### **Pre project phase:**

The pre-project phase was summarized into eight different steps. The eight points are as follows:

#### **1.** Assessing the context:

Before entering into the project, NGO's have to define the problem of that particular area. They also have to see that who will be involved and how will they contribute during their involvement. A research, secondary literature, data from government agencies, NGO's helps to gather information. The stakeholders that will participate in this process may be community people, local government, NGO's, CBOs.

#### 2. Designing the project:

For designing the project, NGOs have to think in terms of the sustainability. Then they have to think of Theory of Change (short term impact, medium term impact and long term impact) following the log frame of 4x4 matrix of goal, purpose, output, and input. Indicators need to be defined as well as the stakeholders at all levels. The targets of each indicator should be defined and also the expected time for achieving the target. While designing the project, methodology containing design of the project, process of the project and implementation should be determined. She emphasized on identification of stakeholders and prioritized the community as the primary stakeholders since the project is at community level. Also the methodology should be well defined, the approach of implementation.

#### 3. Conducting the baseline survey:

After fixing the theory of change and preparing the design of the project, they need baseline survey to collect data of and set the indicators. Indicators are already chosen in the design process. When designing the baseline survey, first vulnerable communities are identified, traditional/ indigenous coping mechanisms are documented, hydro-met data that will be the context specific, socio-economic data (the adaptive capacities of the community) and sector specific data (vulnerability and expertise) data is collected. When doing the project in the community, vulnerability is categorized within the community. For example, in Nepal they categorize the vulnerability as it is labeled V4 being the maximum then V3 and so on. Before the project, most vulnerable VDC is selected then identify small and more specific community and household can be categorized according to vulnerability.

#### 4. Review periodically on baseline data:

The speaker stated that although baseline survey is done at the beginning it needs to be reviewed periodically like mid-term review on the data to take note on the progress. She elaborated that baseline data are uncertain and might get changed over some period. This makes the data relatively irrelevant. So it needs to be taken into consideration to reviewing the baseline data of the moving baseline periodically, say in three or five years.

#### 5. Ensuring Institutional Capacity:

She briefly summarized this as ensuring the status of the qualified human resource, logistic and fund for the project.

#### 6. Participatory M&E Framework.

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Ms. Karki shared about participatory monitoring and evaluation framework, which needs to be developed before starting the project. She listed its type as short term, medium term and long term. She shared that from a common observation of NGOs from different countries, various tools were identified for participatory framework such as Outcome Monitoring Summary Tools used by Helvetas in Nepal, National Adaptive Capacity Framework used by the government in LAPA, Tracking and Monitoring Adaptation (TAMD) tool used by IIED and Disaggregated and Inclusive Framework and Sector specific indicators.

#### 7. Design the implementation guideline:

With reference to Climate Change Adaptation, the speaker emphasized the need to focus on sector specific issues. Regarding CCA from social inclusion perspective, Gender Equality and Social Inclusion (GESI) must be considered, as it was apparent that women and other socially excluded group are vulnerable to climate change impacts. Similarly, the speaker mentioned about training needs assessment (TNA), that is identifying the local communities, staffs; the gap in their skills and knowledge, and designing the training modules according to this need. This module needs to be peer reviewed as well. She then continued to the clarity of roles and responsibilities of the organization and stakeholders, preparation of action plan and then communication & dissemination which is for up scaling.

#### **Question**:

- The implementation guidelines and the term "preparation of action plan" might be perceived variably. Probably there is need of more specification on what needs to be considered in that action plan and clarity of role and responsibility as well.
- These basically included the distinction of role of community as benefactor and contributor, as well as the local governments. Similarly other supporting parties what might be the role of managerial and implementing partners as well as donors. These comprised of the role and responsibility clarity matrix, where one column was provided for one stakeholder and the rows for the distinct roles and responsibilities.

#### 8. Identify Adaptation Activities:

Speaking about how scientific knowledge is not a standalone viable option, the speaker mentioned the need for communities and practitioners/ experts to identify the activities by blending both indigenous and scientific knowledge. Whether sufficient knowledge is not available, it should be piloted and scaled up. While designing activities opportunities, potential of ecosystem services and constraints such as lack of knowledge, data, and resources and uncertainty like maladaptation are considered. The cost benefit analysis of the project before the project is started should be done and time span of the project should

be calculated. Also the scale should be identified as household level, small community level, VDC's level, etc. The speaker focused on contribution and ownership like communities, local government, Media and gave the context of three countries where mostly the ownership is taken by the community and local government.

#### **Question:**

- Regarding criteria for identifying adaptation activities on the 8<sup>th</sup> point, what does "pilot and scale up whether sufficient knowledge is not available" signify?
- As climate change and adaptation issue is new, suitable practice for particular location is unknown. So there is scope of pre-project research in many places, findings of which needs to be tested before widely scaling up. These help to find out, which activities are reflective which helps to identify the activity that can be scaled up to minimize the chances of economic failure. If certain evidently successful technology for a particular situation is already documented certain shock or stresses, it can be directly scaled up in a larger area. So there needs to be some kind of evidence from similar location.

#### **During the Project**

The speaker continued to during the project phase and summarized the steps as follows:

#### 1. Prioritize and implement CCA activities:

Talking about the first step the speaker highlighted Quality Assurance as one of the major things to be taken into consideration. She quoted variation of quality assurance in different countries, like Social Audit is a mechanism in India and Nepal.

- How do you prioritize the CCA activities? Is there some tool for this?
- It is prioritized taking into consideration: level of risk, ecological characters, natural resource management and livelihood options.

#### 2. Collect and analyze the data (Monitoring and Evaluation):

The speaker emphasized this as the main part of Monitoring and Evaluation of the project. She mentioned different mechanisms for monitoring and evaluation such as identified:

- 1. Participatory M&E tool widely used by organizations like Care Nepal
- 2. Third party monitoring
- 3. Joint Monitoring (consultant) of donor, community, government and project implementing organization
- 4. Expert monitoring for complex issues like climate change adaptation which needs scientific knowledge (data collection and analysis).

The speaker presented various alternatives of monitoring like household level or VDC level for different scale of project. For the community level project, the speaker suggested the household

level monitoring. However in some cases, for validation, the VDC level monitoring is required. At VDC level, the perceptions of different service providers regarding these particular activities of project needs to be known as well. Perception mapping is one of the monitoring and evaluating tools. At community level, the perception of people before and after the project could be analyzed based on certain criteria of the project, and this could be one of the monitoring framework/process to use.

- Are you suggesting that the four monitoring mechanisms mentioned above should be integrated into one monitoring or four different lanes of monitoring? What is difference between third party and expert monitoring?
- Third party monitoring includes expert monitoring. But since they are different types of monitoring we are suggesting different options that could be used. Because it depends upon context and country specific experience and capacity. So these are some of the options which can be used collectively or separately.
- Out of these four monitoring which one, based on your own experience, which one do you suggest?
- As the speaker was from CARE Nepal, she has experience of Participatory M&E tool which involves community and local authority. However Joint Monitoring is also preferable, for e.g. in Nepal we have joint project implementation and single project has multiple consortium partners. In this scenario joint monitoring is preferable. Joint monitoring is for higher (macro) level and participatory monitoring is for lower (or micro) level.

#### 3. Adjustment of project activities:

After prioritizing and starting to implement the project, the processes that are working should be continued and the process that are not needs to be revisited. The indicators and activities should be revisited as well if the project is not going accordingly. Various proposed tools for revision are adaptation learning highway, people seminar and mid- term evaluation involving multi-stakeholders.

#### 4. Consolidate learning:

After the **f**inal evaluation, the findings need to be lobbied for mainstreaming the learning with the government. The speaker noted that there was still gap in mainstreaming the CCA in development planning process. This lobbying as the speaker said was not necessary only at the central and local government but also other sectorial agencies needed to do the mainstreaming. Also she mentioned about sustainability and exit plan. She talked about how many project fail to formulate a good exit plan, which contains good information on how the project should continue and by whom should it be continued. Then the other step as listed was dialogue at different levels

in order to ensure continued financial flow. Then for the success of the project dissemination like publication, policy briefing etc. can be done. Finally she mentioned post project longitudinal study like impact survey after completion of the project.

#### 5. Post project CCA promotion funds (stakeholder contribution):

For sustaining the project, mostly stakeholder contributes 50 % and community contributes remaining 50 %.

#### **Post Project**

- 1. In-build CCA activities with the local government planning, monitoring and evaluation system: Annual survey.
- 2. In build CCA activities within community institution/network M&E system. In Bangladesh and India there are similar scenario with various community level institutions, groups and networks where the CCA activities are integrated.
- 3. Integrate within national survey of Central Bureau of Statistics (CBS). Various surveys are periodically done for agriculture and other issues. Survey for CCA activities should be integrated to this periodic surveys.
- 4. Integrate within ongoing or new projects in same area so CCA is continued.
- 5. Make data accessible and public (hard copy, e-coy in the libraries) to share the lesson learned.
- 6. Post evaluation, as the speaker and her team proposed, after 3-5 years of the project enables the impact of the project to be notably visible. The basic idea of post project was to address the issue of scaling the CCA M&E framework. All the previously mentioned integration with national, local and academic systems determines the answer to questions like: how the project continues, how it can be further monitored and evaluated, and how the data/findings from the project are made accessible. So the speaker and her team emphasized on the focus of how to sustain monitoring and evaluation and what kind of mechanism will help in sustaining these established project-based monitoring and evaluation system beyond project.

#### **Question:**

• The speaker was asked to elaborate on this with real world example

A representative from NGO group continued the explanation with the example of a hypothetical 3years project on climate change adaptation by an NGO which has established monitoring and evaluation system and identified the indicators. After the completion of project 3 years later, who was going to monitor these parameters identified? So he suggested negotiating within the local government before the project.

• The question was then redirected to the government group for their opinion: if an NGO showed a monitoring and evaluation framework asking to include in the government procedure, would they accept?

The government group agreed to this argument provided the M&E framework is adequately verified. Various participants of the government group shared their experience in this regard. One of the experience was shared by representative from Bangladesh was about their collaboration with World Fish Organization, a local NGO from Bangladesh, As World Fish has put collaborations with research and has validated different adaptation options in case of fisheries in saline prone areas which is incorporated in government plans as well.

#### **Challenges and Recommendation**

#### Bottlenecks and their mitigation measures:

Ms. Karki explained about the bottlenecks to climate change adaptation (CCA) activities and their mitigation measures:

#### > Institutional Capacity to carry out M&E activities

The speaker noted that unlike Bangladesh, Nepal and India still lacked institutional capacities. Inspite of existing mechanisms for CCA, the implementation is not efficiently delivered. For example district level office in Nepal have good monitoring and evaluation system and dedicated energy, environment and climate change units. However the implementation of CCA activities is not efficient due to lack of personnel with adequate technical knowledge.

For this issue the speaker suggested to strengthen the existing institutional setup with necessary human resource and capacity.

#### • M&E scale at current level:

Within the prevailing system, the speaker noted the lack of actual monitoring at the community level.

She suggested establishing community level monitoring and evaluation mechanism.

#### • Planning Approach & Priority:

A representative from the NGO group briefed this challenge as issue of integration of climate change within the development plans. As the development plans at local level are usually formulated at annual basis, the speaker highlighted that until the annual and long term strategic planning at local level are not integrated with CCA, it is difficult to efficiently monitor climate change adaptation effectiveness. If we have this integration, it provides some basis and mechanism through which the adaptation effectiveness could be regularly monitored in short term as well as in long term.

#### • Existing data & Analysis:

There are still gaps in data analysis in community level and VDC level regarding CCA. The speaker claimed that the existing vulnerability surveys are mostly done from Disaster Risk Reduction (DRR) perspective and very few are done from CCA perspective.

The speaker continued with her suggestions to this challenge emphasizing on prioritizing the data collection based on the vulnerability. She also suggested for a National Climate Vulnerability Survey that covers the VDC level at the period of 5 years of interval.

#### • Sectorial Working Approach:

The speaker mentioned that all the involved sectors are dealing separately and are not mainstreaming the CCA activities.

The Speaker suggested an Inter-sectorial M&E mechanism with shared vision.

#### > Political authenticity at local level (absent of locally elected body-Nepal):

It has been more than a decade that Nepal had an elected local body at VDC and district level. The speaker claimed that there were political setups but non-functional,

She suggested sensitization to political leader about importance of monitoring and evaluation of CCA.

#### • Geographical complexity:

The speaker mentioned that the mountain and hilly region of Nepal are very remote with very low population density and small communities. This could be a major challenge for carrying out the M&E of CCA activities.

For this challenge, the speaker suggested to build the capacity of local people for monitoring and evaluation. Moreover, the promotion of locally adaptable scientific technology is equally important.

#### **Effectiveness Guidelines: Government Group**

Dr. Abu Wali Raghib Hassan

#### **Pre-Project:**

Based on the experiences of the governmental sector the participants from this group have tried to give the guidelines. The group identified two activities. One is identify the climate change hazards impacts and vulnerability based on secondary information, available reports and documents, because government team does not go to identify the data on its own, the research team and NGO team usually collect the data and the information. The government acknowledges the input and relies on it. Then they work on project design (draft), background, rationale (draft), set-up goal, objectives (specific). After that they do project development workshop that engage different level of stakeholders including researcher, NGO's and different agencies of government.

In order to identify the adaptation actions or need assessment they prioritize what action need to be implemented. Then they select target groups. Their lowest target is local government institution. Similarly, they identify the options for implementation that is what and how do they implement their activities and also do the monitoring indicators including output and outcome levels indicators. They also design data collection tools and collect field data to finalize their PP (Project Proposal). Before finalizing the proposal they collect field information from their local

institutions or sometimes they engage local consultant or hire researcher. Moreover, they put project duration and estimate the draft budget.

#### **Question:**

- Adaptation is not priority to the Government?
- The team member replied that in Bangladesh they give priority to adaptation like they organize the validation workshop. The governments ask to their consultant to share their field information and then only they finalize the activity that involves all the stakeholders in workshop. They also select target groups which are most vulnerable groups like women and children and finalize the approach for implementation.

The speaker continued with his presentation and stated that they finalize the project proposal by finalizing the adaptation actions, approach and methodology for implementation. Then they identify and finalize implementation agencies/organizations. During the implementation and post project, they monitor systems developed for project level, external team and project beneficiaries. Then they select project monitoring indicators such as the activity level, outcome level and output levels. After that they could finalize the project phases and duration and finalize the project budget for project implementation. They should allocate the budget for post monitoring implementation because most of the time the post period monitoring gets failed due to lack of budget.

#### **Question:**

- What allocates the length of the project? Is it the activity or the budget?
- The team member replied that most of the time they get budget from the global donors and sometimes the donor give them the time length of the project and sometimes they mention the amount of money and based of the money they select the duration of the project. He suggested that the length of the project should be midterm to long term project not the short term because short terms do not work.

#### **During the project**

For the duration of the project the team came up with the identification of the difficulties to conduct monitoring because as a government they lack capable staffs and if there are staff then the staff transfer is very frequent (within the 6 months). Moreover, they have very limited staffs that are capable. Sometimes they delay in project fund mobilization and recruitment, and late start of implementation of the project which hampers the monitoring. So this difficulty should be resolved. After resolving this, they start to collect baseline so that they could analyze the data. After that they would develop monitoring data collection (checklist) which is developed based on the baseline survey for monitoring. Indicators are selected in the pre-project. This can be done by NGO but they should not rely on NGO and have to develop their own capacity. Then they analyze data and prepare monitoring report quarterly.

- **i.** Measure the progress of adaptive capacity. Adaptation and risk reduction in respective stages according to the designed indicators and reflect third party view by involving different stakeholders.
- ii. If there is a good progress, seek practice for maintaining and system for upgrading the adaptive capacity.
- iii. If gaps are identified, review options for improving adaptive capacity and to improve progress.
- iv. Adjust the project strategy (if permissible) keeping in view the outcomes of the evaluation.
- v. Identify incentives for stakeholders regarding the activities and adjust efforts for monitoring.
- vi. Share the outcomes with stakeholders including local community.
- vii. Incorporate different ideas from stakeholders for decision making.

#### **Post-project**

During the post project, the team is to identify the difficulties and obstacles to post projects that are the monitoring and devaluating. Similarly, they also lack capable staffs in the government system and usually do not have post-project monitoring activity.

#### **Question:**

- How can you say that the Government does not have capacity?
- The speaker replied that they have capacity but are very few or very limited in number. Climate Change knowledge is very few in regard to their research and extension requirements. In agriculture they have always thought about production and now it is climate change which is a new idea and for the new idea there is the lack of capacity.
- In the previous slide the difficulty of the process is staff transfer but the staff transfer is the process of the government and if there is the frequently transfer of the staff then that could be the problem like within 2/3 months or within a year.
- He answered that he is right but he does not really agree. If the capable staff changes then that would be the problem. Again the CC is new if new person comes then that would be difficult but like in Bangladesh if someone inquires about it if the training has already given to the staff then that would work.
- Why the new staff is not capable like previous staff?

- He replied that due to lack of training as they have already given training to the previous staff. And also the transfer like from energy to the agriculture and from one ministry to another ministry like NRC to agriculture or transport causes huge problem.
- Like in NGO group they should participate in monitoring and evaluation. Why can't the government have some rule so that they could monitor?
- He replied that actually they did one proposal and submit to the government and then they finalize the project and if the project is large then the Ministry will sign. In this way they can corporate. They have meeting every months and give responsibility to each district. Then they go for monitoring with some allowances. In case of climate change adaptation fund, they propose participatory monitoring for the transparency so that they could get more funds from global level. For adopting any type of adaptation activity from the grassroots level, there is a technical team in the sub-district level which comprises of members of NGOs, fisheries, livestock and farmers too. This team decides what type of adaptation activities to adopt. Then this activity is then passed on to national level for validation. In this way several projects are initiated.
- NGO and government they have lot of requirements to match each other. Is there any system within the government that can sustain the project after it is finished or why can't they take NGO implemented projects after it's finished?
- Based on the participatory monitoring and evaluation they could see which project to replicate and which activity to spell out. This could be following up project. And which project to sustain beyond project and which to scale up. This should be mention on post project monitoring.
- We have found there are some problems in mainstreaming the adaptation of climate in Government so what will be your response in that case in government's point of view? Have you noted it down in your presentation?
- Local Governments have their own planning process called bottom up planning process which is widely use in Nepal. Bottom up process usually comes from local community and district level. If the NGO comes up with that bottom up planning process from community, ward, VDC's to district level and incorporate their activities within the planning system then they can mainstream the adaptation and in order to replicate they have to follow the governmental system.
- For NGO it is hard to plan for all the states from community level and lots of NGO come to government to replicate their project, so how do you choose the project? Is there any criterion within the government?
- He answered by giving several examples. He started with recently replicated project of floating garden. When the government saw the work done by Practical Action, and hence

based on that learning the required papers were gathered from Practical Action. In this way a project was selected and submitted to the ministry for funding. This was how as he mentioned the floating garden project was selected. He also mentioned about the upcoming fishery project funded by Global Environment Fund. In these criteria several projects from World Fish were selected and funds were provided to them for project preparation. The vulnerability assessment for the project is already through, and is undergoing analysis stage with the researchers. And based on this vulnerability assessment, the respective species of fish were selected. Similarly he gave example of BRAC (formerly known for Bangladesh Rural Advancement Committee) which disseminated sunflower seeds. He further replied that there are no specific criteria. He strongly emphasized that the projects with good research and convincible feasibility and sustainability is selected.

The session ended with few endnotes from Dr. Gehendra Gurung. He expressed his delight on the successful conduction of the two days program in methodological manner. He made few notes of his own. Though the fragments of information and knowledge were shared around in the program it is important for to revisit and put the pieces together. As this was meant for the community, calling it's a community guideline would be incomplete until the community had their say in it. So the chair appealed for a way to find some kind of mechanism to consult the community and circulate this guideline among them. One of the other things he noted was the communication aspect. There might be labs, equations and all researches, but unless it finds the form people can relate to and unless it reaches the policy makers, the NGOs or the government people, it is going to be futile. At last he requested to take the guidelines to the logical end, circulate and see in what way one can contribute.

#### From researcher group:

An individual said that NGO can easily relate and have convenience power. As an example one NGO helped them a lot in their project in order to convince the farmers related to some agricultural project.

#### From Gov. Group:

An individual said that in their project they have a fixed training budget. But NGOs provide trainees with 10 times more than Government. So it is kind of a barrier as a trainee complains to the Government trainer to give them more money.

### Photos



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