

Workshop Proceedings

Developing the Criteria for Classifying and Assessing Climate Change Adaptation Options in the Gandaki River-basin

29 March 2016, Kathmandu, Nepal



Consortium members



About HI-AWARE

The Himalayan Adaptation, Water and Resilience (HI-AWARE) Research Consortium conducts research and pilot interventions, capacity building and policy engagement to enhance the climate resilience and adaptive capacity of poor and vulnerable people living in the mountains, hills and flood plains of the Indus, Upper Ganga, Gandaki and Teesta river basins in Pakistan, India, Nepal and Bangladesh.

HI-AWARE aims to influence policy and practice to aid the climate resilience and adaptation of poor and vulnerable populations in the region by generating evidence-based knowledge on geophysical, socioeconomic, gender and governance drivers and conditions leading to climate vulnerability, as well as monitoring and assessing adaptation measures. It focuses on identifying 'critical moments' when communities are most vulnerable to climate risks, 'adaptation turning points' when existing adaptation strategies no longer work, and "adaptation pathways", sequences of policy actions that address both short-term responses to climate change and longer-term planning. It looks at strengthening the expertise of researchers, students and science-practice-policy networks to conduct as well as use research on climate/social vulnerabilities, resilience, and adaptation.

HI-AWARE comprises of five consortium members: The International Centre for Integrated Mountain Development (ICIMOD), the Bangladesh Centre for Advanced Studies (BCAS), Pakistan Agricultural Research Council (PARC), The Energy and Resources Institute (TERI)-India, and Alterra-Wageningen University and Research Centre (Alterra-WUR).

HI-AWARE is one of the four research consortia under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) supported by the UK's Department for International Development (DFID) and Canada's International Development Research Centre (IDRC).

HI-AWARE Internal Report

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29 March 2016, Kathmandu, Nepal

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Organised by
Himalayan Adaptation, Water and Resilience (HI-AWARE) Research
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Special thanks goes to all stakeholders who participated in the workshop and provided their valuable feedback regarding the understanding of a classification of climate change adaptation and the identification of criteria for evaluation. We would also like to express our sincere thanks to Aditi Mukherji, Arun Bhakta Shrestha, Philippus Wester, Aneel Piryani, and Nani Bajracharya for providing the support to the team in successfully organizing the workshop.

Executive Summary

The workshop on 'Developing criteria for classifying and assessing climate change adaptation options in the Gandaki river-basin' was commissioned to engage relevant stakeholders in the design of a Climate Change Adaptation Matrix, get their inputs to improve the classification of adaptation options, and identify the most important criteria for policy makers and practitioners to evaluate or assess adaptation options. Participants from more than 20 different organizations in Nepal working on climate change adaptation in various sectors and at different levels were present at the workshop.

There were two technical presentations followed by group discussion sessions. The first technical presentation focused on the classification of climate change adaptation. The case studies collected in the Gandaki river-basin were shared to shed light on how existing adaptation practices could be classified. The presentation highlighted different perspectives on climate change adaptation. It showed how current practices followed by communities and other agencies could be understood in terms of policy implications as well as improving adaptation practices.

Participants actively contributed during the workshop to bring more clarity in the most practical ways of classifying adaptation measures. They suggested contextualizing the classification methods and processes to give space to a wider relevance and applicability of adaptation options/measures.

The second technical presentation dealt with the identification of criteria for evaluating climate change adaptation measures. A Climate Change Adaptation (CCA) Matrix was proposed as a tool for classification and documentation to this effect. The case studies of the Gandaki river-basin were given as examples how climate change adaptation could be classified. Also, relevant criteria useful for classification were presented. There were several questions with regard to the suggested criteria and format of the matrix. Participants suggested refining it by incorporating people-centred and vulnerability-focused criteria and adjust the format for a better classification and documentation of adaptation practices.

The presentations were followed by group discussions. A total of 29 participants attended these sessions. They included government representatives, experts, representatives from civil society and international organizations, and experts from International Centre for Integrated Mountain Development (ICIMOD). Based on the recommendations from participants, one of the main priorities of the Himalayan Adaptation, Water, and Resilience (HI-AWARE) team will be to move ahead, keeping in mind the comments and suggestions provided by the workshop participants in terms of the classification of climate change adaptation options, and the criteria for evaluating them.

Background

The Himalayan Adaptation, Water, and Resilience (HI-AWARE) consortium is one of the four consortia of the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA). HI-AWARE is led by the International Centre for Integrated Mountain Development (ICIMOD) in Kathmandu, Nepal. The other consortium members are the Bangladesh Centre for Advanced Studies (BCAS); The Energy and Resources Institute (TERI), India; the Climate Change, Alternate Energy and Water Resources Institute (CAEWRI) of the Pakistan Agricultural Research Council (PARC); and Alterra in The Netherlands. In Nepal, ICIMOD is collaborating with an International Non-Government Organization (INGO) called Practical Action to conduct field research and pilot interventions.

HI-AWARE is not only involved in research but also capacity building and policy engagement with respect to climate resilience and adaptation in the mountains and flood plains of the Indus, Ganges, Gandaki, and Teesta river-basins. Its overall goal is to contribute to strengthen the climate resilience and adaptive capacities of the poor and vulnerable women, men, and children living in these river-basins. The Consortium tries to achieve this by using the findings from research and pilot interventions to influence policy and practices that will improve the livelihoods of these communities.

In these river-basins, HI-AWARE programme carry out research on water, energy, food security, human health, water-related hazards - such as floods, landslides, and droughts, and extreme weather events. In addition, HI-AWARE is also busy testing adaptation measures in observatory lab settings on site and designing adaptation methods for out-scaling and up-scaling adaptation success stories.

Research at the sites includes modelling, exploratory studies, action research, and randomized control trials. Promising adaptation measures are tested in observatory labs at the sites for out-scaling and up-scaling. HI-AWARE is also conducting participatory monitoring and assessments of climate change impacts and adaptation practices. The idea is to identify:

- critical moments— those times in the year when specific climate risks are the highest and when specific adaptation interventions are most effective;
- adaptation turning points – those points in time when current policies and management practices are no longer effective and alternative strategies have to be considered; and
- adaptation pathways— sequences of policy actions that respond to adaptation turning points, by addressing both short-term responses to climate change and long-term planning.

As part of the work on ‘research into use’, HI-AWARE has been developing a Climate Change and Adaptation (CCA) Matrix. It is a tool to explore and classify, and review systematically existing and on-going adaptation measures and approaches. HI-AWARE is aiming to move beyond traditional criteria for the type of measure, governance needs, bridges and barriers to implementation, and its costs and benefits by including criteria related to the robustness of the measures at critical moments, the time horizon, and flexibility. Apparently, an important criterion will be if and how such a measure reduces the vulnerability of the poor. The final set of the most important criteria for the classification and assessment of adaptation options will be discussed and identified in a national workshop in each of the river-basins.

Objective of the workshop

ICIMOD organized a half-day national level workshop in Kathmandu to discuss the classification and evaluation criteria of adaptation options. The main aim of the workshop was to get feedback and input from stakeholder-participants on the Climate Change Adaptation Matrix. Specifically the workshop was meant to:

- Get input from stakeholders to improve classification of adaptation options;
- Identify the most important criteria for policy makers and practitioners to assess adaptation measures.

Expected outputs

The half-day, national-level workshop expected to actively engage the relevant stakeholders on the Climate Change Adaptation Matrix, get input from stakeholders on improved classification of adaptation options, and identify the most important criteria for policy makers and practitioners for evaluating or assessing adaptation options.

Expected outputs were:

- Criteria for classifying and assessing climate change adaptation options would be developed
- The Climate Change Adaptation Matrix would be improved

Process and methodology

The workshop invited a total of 40 participants to discuss the classification of adaptation measures and the CCA Matrix. The group included government policy makers, scholars, researchers, and scientists representing various national and international non-governmental organisations as well as government bodies from Nepal. There was also a good representation from ICIMOD itself, mostly professionals from the HI-AWARE project.

The workshop used a mix of methods to meet its objectives. It combined presentation, a question and answer session, and a group discussion followed by a plenary to work out a classification and criteria to evaluate climate change adaptation in the Gandaki river-basin. Presentations provided an overview of the topic, an outline of literature review findings, and a summary of case studies collected in the river-basin. Interaction sectional and group discussions further helped bring clarity to the issue and laid the foundation for a way forward with respect to the Matrix.

Participants were divided into 3 groups, according to their profession and interest. They were asked to discuss two questions given to them. These were: a) What are your initial comments about the presentation, particularly the topic and the content? b) Based on your experiences, what are the criteria for assessing adaptation options/measures from a policy perspective, practitioner's perspective, and researcher's perspective? Participants were then asked to write down the outcome of their discussion on flip charts. These were shared in the plenary session.

Outcome of the workshop

Introductory session

The formal introductory session involved welcome remarks by Arun B. Shrestha, regional programme coordinator from ICIMOD. He said that socio-economic transformation is happening in Nepal and the South-Asia region. Moreover, he observed, climate change issues are affecting structural transformation. He stressed, in the context of a changing climate, that adaptation is a must. He further said that ICIMOD is working with regional partners to address the challenges posed by climate change, and that the HI-AWARE programme is contributing in several aspects.

Dr. Aditi Mukherji, water and air thematic leader, from ICIMOD, highlighted the objective of the workshop. She said that it was a methodology workshop aimed at improving, refining, and updating the information and knowledge so far generated through literature review and case studies. She mentioned that adaptation is crucial and an understanding of what we are exactly adapting to is important to analyse. She further said that we have to understand 'good' and 'bad' adaptation including maladaptation practices to be able to re-tailor adaptation practices.

She concluded that the workshop would help improve the work HI-AWARE intends doing. This, in turn, could then provide input for policymaking and improving climate adaptation practices in the region.

This session was followed by a brief introduction by participants themselves. They mentioned briefly about their organization and work. There were representations from more than 20 national agencies, which included government and development bodies, NGOs, and international organizations. In short, participants comprised policy makers and practitioners working on climate change issues in the Gandaki river-basin (see further Annex 2).

Presentation

Presentation about HI-AWARE

Anjal Prakash, programme coordinator for HI-AWARE, from ICIMOD, gave the first presentation. He introduced the HI-AWARE programme and highlighted its key research components. He explained more specifically about the work in the Gandaki river-basin and important programme outputs that were, and are, relevant to the policy and practice of addressing climate change in Nepal. He elaborated in detail elements of the introduction, outcome, and impacts of the programme, its different work packages, and the geographical regions, focus, stakeholders, and agencies involved. The key points of the presentation included:

- **Introduction:** HI-AWARE, one of the four consortia of the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) is involved in carrying out research in the mountains and flood plains of the Indus, Ganges, and Brahmaputra river-basins.
- **Work packages or Programmes?:** The HI-AWARE programme consists of three inter-related Programmes, which will be implemented at various scales in four study basins -the Indus, Upper Ganga, Gandaki, and Teesta river-basins- and beyond. Work Package 1 focuses on knowledge generation on climate change impacts and the causes that lead to vulnerability as well as adaptation practices and policies. Work Package 2, called Research into Use, will systematically promote the adoption of knowledge and adaptation practices at various scales by practitioners and policymakers, to reduce vulnerabilities of communities and build livelihood resilience. Work Package 3, called Strengthening Expertise, will build the capacity of researchers, students, and science and policy stakeholder networks to do interdisciplinary research on climate change vulnerability, resilience, and adaptation.

- **Geographical region and focus:** HI-AWARE focuses its activities on 12 sites that represent a range of climates, altitudes, hydro-meteorological conditions, rural-urban continuums, and socio-economic contexts in the four basins designated for study.
- **Stakeholders and agencies:** HI-AWARE is implemented by a consortium of partners, which includes ICIMOD, TERI, ALTERRA, PARC, and BCAS. It also has strategic partners at country level. Megh Paani Abhiyan ('Cloud Water Campaign'), The Mountain Institute-India, Practical Action Nepal, LEAD Pakistan, and CEDAR India are engaged strategically in carrying out research and pilots in the HI-AWARE study river-basins.

Presentation on classification of adaptation measures

Dr Bimal Raj Regmi, consultant with ICIMOD, delivered the second presentation. He provided an analysis of how climate change adaptation is classified, based on the nature of adaptation responses in the context of the HI-AWARE river-basins. The presentation outlined the outcome of a literature review as well as field-based case studies carried out in the area. It provided both a science and an art of climate change adaptation and the practical examples from the field.

Key areas of presentation included:

- **Objectives and rationale for classification of adaptation measures:** The classification of climate change adaptations is intended to analyse systematically climate-change adaptation related literature and case studies made in the river-basins. It specifically provides a theoretical basis for reviewing literature to identify adaptation options, including the actual and potential basis of successful adaptation, to cope with heat, drought, flood, and rainfall variability across sectors in the plains, hills, and mountains.
- **Methodology and process:** The classification of adaptation measures was carried out using various methods and tools. The methods included literature review, field case studies, and stakeholders' consultation.
- **Adaptation concept and understanding:** This section of the presentation dealt with the definition of climate change adaptation and various perspectives on adaptation. It was emphasized that climate change adaptation, for HI-AWARE, means looking at both community and ecosystems relevant to livelihood in the river-basins.
- **Guiding framework for understanding climate change adaptation:** The framework proposed in literatures on climate change adaptation was used for classifying adaptation measures in HI-AWARE programmes. Adaptation was classified according to these questions: Adaptation to what? How does adaptation occur? Who or what adaptation? And how effective is adaptation?
- **Main findings:** The adaptation measures, documented in the Gandaki river-basin, were used as an example of classification. Autonomous adaptation and planned adaptation were identified as the two chief classification categories for climate change adaptation there. To classify and systematically review existing and on-going adaptation measures and approaches, a **Climate Change and Adaptation (CCA) Matrix** was proposed. The CCA matrix was to be used as a tool to explore and classify various possibilities of adapting to climate change at local as well as higher levels.

Questions raised

- Dr Keshav Sharma raised the issue of definition and boundary of the Gandaki river-basin and observed that some examples presented included areas beyond this river-basin. He said that there is a need to be very clear about the time dimension of spatial and temporal classification. Dr Sharma said there was confusion in the matrix and categorization with respect to hazards and geographical regions.
- Ms Judy Oglerhorpe, from WWF-Nepal, suggested including the transhumance system while categorizing a geographic region in the matrix.
- Mr Raju Pandit Chettri, from the Prakriti Resource Centre, raised issues around the lack of clarity and amount of confusion around development versus adaptation. He suggested focusing more on growing and transforming adaptation to bring more clarity.
- Mr Bhuwan Thapa, from ICIMOD, argued that we need to be clear on adaptation. There should be a clear distinction between what is adaptation and what is not.
- Dr Aditi Mukherji, from ICIMOD, said that the matrix looks very simple. She thought that the various ways of

classification captured in the presentations could be used to expand and improve the CCA matrix.

- Dr Pranita Udas, from ICIMOD, observed that issues of adaptation are complex and suggested documenting success stories.
- Dr Krishna Pant, from FAO, said that there should be more clarity on how much of the research was based on literature and what other methods were used to substantiate literature findings.

Answer or clarification provided

- Dr Bimal Regmi appreciated all comments and inputs. He agreed work was still needed to bring clarity into the classification, particularly while looking at various dimensions of the matrix. He clarified that the research used both literature review and field-based case studies to get data for the CCA classification. He further acknowledged that some examples used in the CCA classification were from beyond the Gandaki river-basin.
- Dr Anjal Prakash provided some rationale why specific river-basins were selected for HI-AWARE research in various countries. He also gave the rationale for selecting the Gandaki River in Nepal.
- The participants agreed to discuss further issues related to the classification during the group discussion.

Presentation on criteria for classifying adaptation measures

Dr Bimal Regmi gave the third presentation. He highlighted the criteria for assessing adaptation measures and options. He provided a synopsis of the literature review on how successful climate change adaptation is defined, and the limits and constraints of adaptation including maladaptation as well as the classification criteria. He provided a summary of the field studies with some examples of how adaptation could be assessed.

The key areas of the presentation included:

Introduction and objective of the programme: The objective of classifying adaptation measures is to analyse systematically the successes and failures of climate change adaptation (literature and case study in the river-basins). That is, to **understand how well adaptation is taking place.**

Methodology: To classify and review systematically existing and on-going adaptation measures and approaches, a Climate Change and Adaptation (CCA) Matrix was proposed. This matrix is a tool to explore and classify various possibilities of adapting to climate change from local to higher levels. It is an online matrix showing on-going measures, their characteristics, and how they enhance the adaptive capacities of the poorest and most vulnerable. The methodology involved a literature review of adaptation options and measures. Then 15 case studies based on this review were documented and short-listed; finally 5 case studies were selected for field study.

Criteria for evaluating adaptation measures:

These included:

- a) Flexibility;
- b) Equity;
- c) Coherence/synergy – alignment and Acceptability (politics, bureaucracy, community, and private sector);
- c) Feasibility, efficacy/effectiveness, efficiency, acceptability/legitimacy, and equity;
- d) Efficiency, equitability, appropriateness, urgency, no-regret, and flexibility;
- e) Effectiveness, flexibility, economic efficiency, social acceptability, timeliness; equity, institutional compatibility, farmer ability to implement, and net benefits.

Case studies: Four case studies were documented in the Gandaki river-basin covering three geographical areas, the upper streams, mid-stream, and lower streams of the basin. The case studies were classified according to these criteria: effectiveness, efficiency, equity, and relevance. The criteria also assessed whether or not the adaptation strategies were aimed at reducing climate risk and increasing resilience of poor and vulnerable households and communities.

Conclusion: Based on the literature review and case studies, specific criteria were recommended. These were: effectiveness, efficiency, sustainability, equity, resource efficiency and governance, poor and gender focused,

considering risk of maladaptation, building adaptive capacity, and acceptability.

Questions raised

- Mr Eak Raj Sigdel, from the Local Governance and Community Development Project, said that sustainability is very important. He thought that it is also necessary to include the local government in the design and implementation of interventions. If adaptation is well integrated into the planning process in this way, it will support sustainability and effectiveness of the intervention. Further, according to him, focus should be given to governance, particularly proper governance to support adaptation.
- Ms Anupa Lamichhane, from UNDP, suggested keeping resource allocations as the main criteria. She remarked that resource allocation is linked with governance. According to her, if climate change adaptation is to be sustainable it has to be brought about through planning at local level basically.
- Dr Keshav Sharma, from Adapt Nepal, said there are some good stories of solar and wind hybrid energy. They could be good options for promoting rural and clean energy at local level. According to him, the positive aspects of solar and wind hybrid technology should also be highlighted.

Answer and clarifications

- Dr Bimal Regmi said that the suggestions were very valid and asked participants to discuss more on these issues and give suggestions during the group discussions. He remarked that the criteria were a tentative list that needed to be discussed further in the group to identify their relevance and significance for Nepal.
- The participants agreed to continue exchanging ideas during the group discussion.

Group discussion on classification of adaptation measures

The group discussion focused on the content of the presentation and issues with the classification of adaptation measures. There was also a discussion around getting feedback and suggestions to improve the classification based on the experiences in the Gandaki river-basin. The issue raised by participants was to look at more practical and pragmatic ways of classifying adaptation measures. Table 1 lists issues related to this classification.

Participants also discussed suggestions on improving the classification of adaptation measures for the Gandaki river-basin. The suggestions reiterated the need for identifying simple and practical ways of classification. The suggestions were:

- Most issues can be addressed by incorporation of institutional and governance aspects of adaptation interventions;

Table 1: Group comments on the classification of adaptation options

Group 1	Group 2	Group 3
<ul style="list-style-type: none"> • Scientific knowledge on climate change at local level and gap should be documented • Climate stress should be the focus in classification • Why do we need classification? Is it for learning, planning, or for the benefit of communities - this has to be clarified • Ranking scale- how do we quantify multi-criteria analysis? • Criteria to understand community perception are missing • Timing of temporal and spatial needs to be clear • Define planning further: Is it at level of government, project, or what else? 	<ul style="list-style-type: none"> • Matrix is too simple • The classification lacks focus on local knowledge • Maladaptation should be more discussed • Confusion on time frame of classification • Resilience is missing in the classification • Need to include the non-climatic stresses too in the analysis • Need to focus on socio-economic drivers also (process and outcome) • Differential vulnerability has to be captured • Distinguish development and adaptation 	<ul style="list-style-type: none"> • Need to be specific on the Gandaki river-basin and its coverage • Need to bring more clarity on the spatial and temporal scope • In the geographical river-basin, include the Trans- Himalaya area • One of the grey areas is how to distinguish between development and adaptation • There should be clarity and clear distinction between what is adaptation and what is not

- The matrix at this moment looks very simple. It can be strengthened, based on the various classifications outlined in the presentations;
- Need to include more sections within the CCA matrix, in line with National Adaptation Programme of Action (NAPA) include cross cutting sectors;
- The CCA classification needs to cover the various scales from household to river-basin level in the matrix;
- Sectoral integration is key for classification, so look at strategic sectors;
- Include transhumance system in the classification;
- Categorize hazards by the level of risks in all the regional areas;
- Include multiple scales of classification to capture varied context;
- For adaptation, incremental and transformational aspects should be considered.

Group discussion on criteria for assessing adaptation options/measures

After the presentation on criteria for assessing adaptation options participants were asked to discuss the content of the presentation and provide their overall feedback on criteria useful for assessing adaptation options in the Gandaki river-basin. Their comments and suggestions are summarized below.

General comments on the presentation

- The criterion for sustainability is the key for evaluating CCA.
- Include governance as a major criterion, since involving the local government in the process is the key to climate change adaptation. Integration into the planning process can act as an entry point.
- Resource allocation and governance, and linkages between the various planning scales (central and local level) are important criteria to be considered.
- Separate current classification of criteria that are traditional versus new, to give more clarity.
- Criteria should be contextual. At the current stage, it is too general.
- Need in-depth research and documentation.
- Need more data and information to unpack the classification.

Suggestions to improve the CCA classification

The group provided suggestions to improve the criteria for evaluating adaptation options. The main message was to develop context-specific criteria that can actually look at the incremental trend of climate change and the

Table 2: Suggestions on the criteria for evaluating adaptation measures

Group 1	Group 2	Group 3
<ul style="list-style-type: none"> • Governance/management and ownership • Resource allocation - efficiency • Flexibility • Risk of maladaptation • Livelihood focus and people oriented 	<ul style="list-style-type: none"> • Effectiveness: linkages to climate change and non-climate change parameters; • Knowledge (scientific and local); • Scale • Efficiency: human; natural; cost (cost/benefit); • Sustainability; • Capacity (human/technical); • Responsive; • Awareness; • Resources (financial, natural); • Institutions/agency; • Acceptance; • Appropriateness; • Duration; • Equity: Gender and Social Equity; • Participation; • Legitimacy; • Co-benefits; • Accountability 	<ul style="list-style-type: none"> • Distinguish between adaptation and development project based on vulnerability • Define sustainability, time frame and flexibility • Build adaptive capacity of people

effectiveness of interventions. Table 2 highlights the suggestions.

Summary of the discussions

Based on the presentations, question-answers, and discussion, the adaptation matrix was refined. The revised adaptation matrix now includes climate change manifestations and key sectors. It was also agreed that the classification should include a broad range of categories that policy makers and practitioners find useful to track and identify adaptation measures by. See Table 3 for the proposed CCA matrix.

Table 3: Suggested adaptation matrix

Climate change risk	Agriculture and food security	Forest and natural resources	Energy	Human settlements and built environment including health
Temperature (like heat stresses, drought)	Case studies	Case studies	Case studies	Case studies
Precipitation (like variability, flooding, landslide, Glacier Lake Outburst Flood (GLOF))	Case studies	Case studies	Case studies	Case studies

Table 4: Suggested criteria for evaluating adaptation options

Criteria	Elements
Effectiveness	Impact of the interventions in terms of reducing climate risk and impact on the population; the positive implications of the interventions
Efficiency	Cost effectiveness in terms of achieving results
Sustainability	The continuity of the adaptation strategies, and scope and potential for wider adoption and replication
Equity	Addresses the concern of poor, women, and vulnerable groups. Tries to ensure participation of the group in decision making
Legitimacy	Ownership by formal and informal institutions
Resource efficiency	Wise and optimum use of resources in a sustainable manner
Governance	Good governance in terms of ensuring transparency, accountability, participation, etc.
Poor and gender focused	Interventions benefiting the poor and marginalized including women and children
Risk of maladaptation	Avoid maladaptation practices
Building adaptive capacity	Empowering and enhancing the awareness and capacity of vulnerable groups

The discussion on criteria for evaluating adaptation options suggested a number of important aspects that need to be considered for the Gandaki river-basin. The criteria are discussed in Table 4. The stakeholders mostly suggested several criteria that relate to the greater impact and positive implications of adaptation interventions, mostly by reducing risk and building the adaptive capacity of vulnerable households, communities, and sectors.

Conclusion and the way forward

The group discussion was followed by a concluding session. Mr Philippus Wester, from ICIMOD, summarized the discussion points and talked about the way forward. This would include how HI-AWARE will build on the outcome of the workshop to refine their work. Mr Wester further said that understanding the limitations of adaptation is crucial in the planning and implementation of climate change adaptation. He continued saying that adaptation and

development are linked. Adaptation is regarded as climate-smart and sustainable development.

The adaptation matrix would be refined based on the feedback and shared with stakeholders in a next meeting. Also further clarity would be needed in terms of identifying the end-users of the matrix and its multi-dimensional aspects. Mr Wester also observed that the distinction between planned versus autonomous is sometimes difficult to work with, often creating a division between the government and people. Then the workshop concluded.

The workshop was successful in getting practitioners to work together on adaptation across climate-sensitive sectors and suggest a way forward for climate change adaptation studies in the Gandaki river-basin. There were specific suggestions to refine the Climate Change Adaptation Matrix and criteria for both classification and evaluation of adaptation measures. Future research should consider the suggestions and feedback from the participants.

This workshop may also serve as a lesson for other workshops planned on CCA classification and evaluation for the other HI-AWARE focus river-basins.

Annex 1: Programme

Time	Events	Role
09:00 – 09:15	Registration and tea	All
09:15 – 09:30	Opening remarks	Dr. Arun Shrestha
09:30 – 09:45	Objective of the workshop	Dr. Aditi Mukherji
09:45 – 10:00	Introduction of participants	Participants
10:00 – 10:15	About HI-AWARE project	Dr. Anjal Prakash
10:15 – 11:00	Presentation on classification of adaptation measures and group discussion	Dr. Bimal Regmi
11:00 – 11:15	Tea and networking	
11:15 – 12:00	Criteria for assessing adaptation options/measures and group discussion	Dr. Bimal Regmi
12:00 – 12:30	Group presentation	Dr. Anjal Prakash
12:50 – 13:00	Conclusion and way forward	Dr. Aditi Mukherji
13:00 – 14:00	<i>Lunch</i>	

Annex 2: Participants

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Annex 3: Evaluation of the workshop

A total of 26 participants volunteered to provide feedback for the workshop. The majority of them felt that the event was very good to excellent. A good number expressed their willingness to continue engaging with HI-AWARE programmes. They were also satisfied with the delivery by the resource persons and the methods used to enhance interaction and participation among them. A good majority ranked the quality of presentation as highly satisfactory.

Criteria	Participants' Ranking			
	satisfactory	good	very good	excellent
About the event				
The event met my expectations	1	5	14	6
The event objectives were met	0	7	15	4
I will benefit from the knowledge I gained	0	5	11	9
I will like to continue engaging with HI-AWARE	0	3	11	12
Resource persons	satisfactory	good	very good	excellent
The presenters were knowledgeable	0	3	8	15
The quality of presentations was good	0	1	11	14
The presenters/facilitators met the objectives	0	5	10	11
Participation and interaction were encouraged	0	3	13	10
Adequate time was provided for questions	1	6	10	9

The feedback also provided some areas of improvement for ICIMOD. For example, quite a number of participants were concerned about meeting the objectives of the workshop and the time provided for questions and answers. The feedback shows that in future there should be sufficient time for participants to express their views and provide insights into the subject matter.

Annex 4: Feedback form

A General information

Which of the following best describes your main role in this workshop?

- a. Participants
- b. Observer
- c. Resource person (organizer, presenter, facilitator)
- d. Other, please specify _____

How much of the activity were you able to attend?

- e. All of it (everyday, all sessions)
- f. Most of it (most days and sessions)
- g. More than half
- h. Half or less

Are you

Male Female

B About the event	Satisfactory	Good	Very Good	Excellent
The event met my expectations	1	2	3	4
The event objectives were met	1	2	3	4
I will benefit from the knowledge I gained	1	2	3	4
I would like to continue engaging with HI-AWARE in these areas	1	2	3	4

C Resource Persons	Satisfactory	Good	V Good	Excellent
The presenters were knowledgeable	1	2	3	4
The quality of presentations as good	1	2	3	4
The presenters/facilitators met the objectives	1	2	3	4
Participation and interaction encouraged	1	2	3	4
Adequate time was provided for questions	1	2	3	4

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