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SKILLS ASSESSMENT FOR NATIONAL ADAPTATION PLAN (NAP) FORMULATION PROCESS IN BHUTAN

Table of Contents

- List of Tables 3
- List of Figures..... 3
- List of acronyms 4
- Glossary of Bhutanese Terms 5
- Executive Summary 6
- 1. Introduction..... 8

- 1.1. Rationale and Context of Skills Assessment 8
- 1.2. Existing Climate Change Training Initiatives and Programmes 10
- 2. Framework for Skills Assessment..... 11

- 2.1. Methodology..... 12
- 3. Summary of Capacity Constraints..... 13

- 3.1. National Climate Change Focal Institutions 14
- 3.1.1. Institutional Assessment 15

- 3.2. Central Ministries/Departments..... 17
- 3.2.1. Institutional Assessment 19

- 3.3. Local Government Institutions..... 20
- 3.4. Non-Government Organizations/ Civil Society Organizations/ Private Sector 21
- 3.5. Academia and Research Institutions 22
- 3.6. Management Skills Assessment 23
- 3.7. Participatory Skills Assessment 23
- 3.7.1. Inter-sectorial coordination on adaptation 23
- 4. Conclusions and Recommendations 24
- 5. Strategy for strengthening skills and capacity of institutions 25

- 5.1. SWOT Analysis 25
- 5.2. Strategy for addressing and strengthening the capacity and skills of institutions..... 27
- Strategy 1: Capacity building on adaptation learning program into national education and training systems 27
- Strategy 2: Develop institutional memory for climate change adaptation 28
- Strategy 3: Promote integration of awareness and utilization of indigenous/ traditional knowledge systems 29

Strategy 4: Develop financial mechanisms to sustain climate change skills development .	30
6. Bibliography.....	31
7. Annexures	34
<hr/>	
7.1. List of Training programmes	34
7.2. Institutional Questionnaire.....	35
7.3. List of Technical Skills.....	36
7.4. List of Management Skills	40
7.5. List of Participatory Skills	44

List of Tables

Table 1: List of Stakeholders Consulted	13
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List of Figures

Figure 1: Complementary skills cube (UNITAR, 2015).....	11
Figure 2: Indicative Workflow	12
Figure 3: Indicative process flow for the NAP process at the national level (Source: UNFCCC, 2012).....	13

List of acronyms

ABI	Association of Bhutanese Industries
APIC	Agency for Promotion of Indigenous Crafts
APA	Annual Performance Agreement
AWLS	Automatic Water Level Station
AWS	Automatic Weather Station
BCCI	Bhutan Chamber of Commerce and Industry
BNCA	Bhutan Narcotics Control Authority
BNLI	Bhutan National Legal Institute
CCCC	Climate Change Coordination Committee
CI	Climate Information
COP	Conference of Parties
CSOs	Civil Society Organizations
DDM	Department of Disaster Management
DGM	Department of Geology and Mines
DHI	Druk Holding & Investments
DHS	Department of Human Settlements
DMEA	Department of Macroeconomic Affairs
DoFPS	Department of Forests and Park Services
DoHS	Department of Hydromet Services
DRA	Drug Regulatory Authority
DRE	Department of Renewable Energy
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EWS	Early Warning System
FEMD	Flood Engineering Management Division
FYP	Five-year plan
GCF	Green Climate Fund
GCM	General Circulation Models
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GLOF	Glacial Lake Outburst Flood
GNH	Gross National Happiness
IPCC	Intergovernmental Panel on Climate Change
KGUMSB	Khesar Gyalpo University of Medical Sciences of Bhutan
KPIs	Key Performance Indicators
LDC	Least Developed Country
LEG	Least Developed Countries Expert Group
LGs	Local Governments
LGKRA	Local Government Key Result Area
LGSP	Local Governance Support Programme
MASL	Elevation in meters above sea level
MFCTC	Macroeconomic Framework Coordination Technical Committee
MoAF	Ministry of Agriculture and Forests
MoEA	Ministry of Economic Affairs
MoF	Ministry of Finance
MoHCA	Ministry of Home and Cultural Affairs
MoIC	Ministry of Information and Communications
MoLHR	Ministry of Labor & Human Resources
MoWHS	Ministry of Works and Human Settlement
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Actions
NCHM	National Center for Hydrology and Meteorology
NCWC	National Commission for Women and Children
NDCs	Nationally Determined Contributions

NEC-S	National Environment Commission Secretariat
NEX-GDDP	NASA Earth Exchange Global Daily Downscaled Projections
NKRAs	National Key Result Areas
NSB	National Statistics Bureau
OAG	Office of the Attorney General
PLAMs	Planning and Monitoring System
PEMS	Public Expenditure Management System
PRECIS	Providing Regional Climates for Impacts Projects
RAMSAR	Ramsar Convention on Wetlands of International Importance
RCPs	Representative Concentration Pathways
RcoJ	Royal Court of Justice
RGoB	Royal Government of Bhutan
RMA	Royal Monetary Authority of Bhutan
RSPN	Royal Society for Protection of Nature
RUB	Royal University of Bhutan
SDGs	Sustainable Development Goal
SKRAs	Sectoral Key Result Areas
SOP	Standard Operating Procedure
SWOT	Strength Weaknesses Opportunities and Threats
TCB	Tourism Council of Bhutan
TVET	Technical Vocational Education and Training
TWG	Technical Working Group
UN	United Nations
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
WMD	Watershed Management Division

Glossary of Bhutanese Terms

Chiwog	Village or a group of few hamlets
Dzongkhag	District
Drungkhag	Sub-District
Gewog	A county, the lowest government administrative unit, made up of a group of villages.
Gups	Head of the Gewog
Thromde	Municipality

Executive Summary

Climatic events, such as heavy rainfall have led to floods, erosion and landslides in Bhutan, and the mountainous regions have become increasingly susceptible to glacial lake outburst floods (GLOFs). These events have led to loss of lives, infrastructure, decrease in agricultural crop yields, decrease in hydropower generation due to changes in water distribution and GLOFs. Increase in overall temperature have become a threat to biodiversity causing species migration, spread of invasive species and increasing propensity for forest fires in Bhutan.

Adaptation measures and strategies play an important role in reducing the overall vulnerability to climate change impacts in Bhutan. United Nations Framework Convention on Climate Change (UNFCCC) established the national adaptation plan (NAP) to facilitate adaptation planning in least developed countries (LDCs) and other developing countries. Bhutan decided to prepare its National Adaptation Plan and availed the NAP readiness financing from GCF through the project “Preparation of a National Adaptation Plan (NAP) for Bhutan, with a focus on the water sector”. The preparatory phase of the project includes a stocktake and a skills assessment component which include:

- Identifying existing information and data gaps on climate change risks;
- Impacts of climate change on sectors, and existing climate change scenarios;
- Identify and describe the existing skills-sets in place relevant to climate adaptation (policy, organizational, and operational); and
- Locate these skills-sets at different implementation levels and identify the gaps where additional skills development is required.

This report focusses on the Skills assessment for the NAP in Bhutan. The skills assessment undertaken for the NAP process seeks to take stock of skills available in the country and locate these in the institutions after which gaps will be identified for future skill building to implement the Bhutan NAP. Technical, managerial as well as operational skills are required for NAP implementation and to ensure that adaptation planning, implementation and monitoring and evaluation are sustainable, they need to be built into the existing system.

The first step in skills assessment was to gain an understanding of the gaps in existing climate change training initiatives and programmes. It was found that multiple trainings and workshops were held on capacity assessments and trainings for climate change adaptation in Bhutan during the last 10 years, however, there was a need at the central ministries level to build a climate adaptation capacity development programme across all levels of stakeholders.

The next step was to conduct desk research and interviews for Skills assessment. This was done by using UNITAR’s methodology on Skills Assessment for National Adaptation Planning (2015) which divides skills into 3 main categories – Technical, Management and Participatory. For Bhutan, a total of 36 adaptation planning skills were assessed (12 Technical, 12 Management, and 12 Participatory). Each skill with its associated sub-skill areas is provided in Annexures. A competency rating was selected for each sub-skill to quantify proficiency in each one. The chosen rating system, based on the Kirkpatrick model of learning and focused on competency defined by three levels of achievement, namely, Acquiring, Competent and Highly Competent was used. Five groups of key institutions were consulted for the technical skills assessment were National Climate Change Focal Institutions, Central Ministries/Departments/ Technical Support, Local Government Institutions, Civil Society/ Private Sector, Research and Support.

Among the national climate change focal institutions (GNHCS, NECS, NCHM), it was observed that there is a need for skilled staff and there was gap in coordination between NCHM and other ministries/ departments that need climate related info to make decisions. Individually, it was found that NECS requires manpower and skill building in the area of climate finance and economics. NCHM requires additional skills to interpret climate model outputs, analyse high resolution satellite images, perform long-term forecasting

etc. and GNHCS needed to understand climate risks and opportunities, financing mechanisms and best practices from NAPs in other countries.

Central Ministries/Departments lacked expertise in the area of vulnerability assessments, mitigation and adaptation assessments, integrating sectoral policies/actions plans/activities. Application based skills were needed to assess adaptation costs accurately and institutionally a need was felt to integrate climate change financing frameworks and climate change adaptation into budget management systems.

Local Government institutions needed training to take up adaptation assessment, economic assessments, climate adaptation budgeting and improve coordination and cooperation with national level stakeholders. NGOs/CSOs in Bhutan had strong skills and experience of working on climate change adaptation and implementing similar projects. The Private Sector had basic understandings of climate change, however, besides few project- tied interventions, are not actively engaged in climate change adaptation.

In Academia and Research Institutions it was felt that provision of a common platform to share and disseminate research findings would further help build the capacity of the institutions and enhance skills and knowledge in alignment with the priorities of capacity building skills as identified by the Royal Government of Bhutan.

The results from the management skills assessment showed that stakeholders lacked the understanding of environment and climate change impacts from development activities and there was need of new skill sets in advocacy, time management, stakeholder engagement and project management. For participatory skills, while a gender lens was adopted in most of their action and programmes, there was a need for better coordination and communication among stakeholders.

Overall, the skills assessment for Bhutan reflected that it is not at the beginner stage as some capacities already exist in the different agencies of the Royal Government of Bhutan required for the NAP process while some need to be developed. In general, it was found that skill sets at the central government level were either somewhat adequate or were in the process of being developed.

Going forward, post a validation workshop conducted on 9-10th January 2020 in Phuentsholing, Bhutan with all the thematic working group members. A SWOT analysis was done to prepare strategy and recommendations for strengthening skills and capacity of institutions. The process of SWOT analysis was conducted at two levels: organizational and operational/ individual across the institutional groups. The key strategies further identified for addressing the gaps and weakness are:

- Capacity building on adaptation learning program into national education and training systems;
- Develop institutional memory for climate change adaptation;
- Promote integration of awareness and utilization of indigenous/ traditional knowledge systems; and
- Develop financial mechanisms to sustain climate change skills development.

1. Introduction

Bhutan has made rapid socioeconomic growth even with its difficult terrain and widely dispersed population. Its strong growth performance, even amid the global financial crises and economic meltdown indicates that, with continued good management, Bhutan is on its way to being an upper middle-income economy with graduation from Least Developing Country status scheduled for 2023. Bhutan's development performance has been guided by its philosophy of Gross National Happiness- of striving to balance spiritual and material advancement through four pillars of sustainable and equitable economic growth and development, preservation and sustainable use of the environment, preservation and promotion of cultural heritage, and good governance. Detailed policies and government interventions to support its development were based on a series of FYPs and their implementation with the objective of the current 12th Five Year Plan of "Just, Harmonious and Sustainable Society through enhanced Decentralisation."

While Bhutan has made remarkable progress in its socio-economic development with much of its natural environment intact and is a net negative carbon emitter, all its achievements are threatened by the impacts of climate change, a threat it is least responsible for. While Bhutan has committed to be carbon neutral for all times to come, it is important to adapt to the impacts of climate change and with financing from the LDC fund, Bhutan has already implemented two NAPAs with the third currently being implemented to deal with immediate and urgent climate change related threats.

In response to decision 5/CP.17 on NAPs of the 17th Conference of Parties to the United Nations Framework Convention on Climate Change, Bhutan decided to prepare its National Adaptation Plan and availed the NAP readiness financing from GCF through the project "Preparation of a National Adaptation Plan (NAP) for Bhutan, with a focus on the water sector". The preparatory phase of the project includes a stocktake and a skills assessment component which would : identify existing information and data gaps on climate change risks, impacts of climate change on sectors, and existing climate change scenarios; identify and describe the existing skills-sets in place relevant to climate adaptation (policy, organizational, and operational), and locate these skills-sets at different implementation levels and identify the gaps where additional skills development is required.

Strong capacity is required in order to address adaptation needs in some of the areas as the following:

- Overall coordination of adaptation work at the national, local, regional level;
- Assessment of the impacts and risks of, and vulnerability to, climate change at multiple scales, regions and sectors;
- Development of strategies, frameworks and/or plans to address the impacts, vulnerabilities and risks;
- Prioritization of adaptation needs, implementation of specific adaptation projects, programmes or activities to address those needs, and securing of resources for implementation; and
- Information management (collection, analysis and dissemination of information in support of adaptation activities).¹

1.1. Rationale and Context of Skills Assessment

National Adaptation Plans (NAPs) are part of a global effort to support all developing and least developed countries in designing, coordinating, implementing and monitoring medium term and long- term response to climate change risks and vulnerabilities. The formulation of NAPs is an iterative process that includes many sectors, stakeholders and planning levels with cooperation required across institutions, management structures, and decision-making processes. Decision makers and planners working on NAPs in these countries

¹ Technical guidelines for the national adaptation plan process, 2012, UNFCCC

are dependent on institutions with clearly delineated responsibilities and functions, backed by individual skills and knowledge.

The synthesis report on skills for green jobs by International Labour Organization (ILO) based on 21 countries shows that although skills development is vital in unlocking the potential for green job employment, shortages of skills are increasingly becoming an obstacle in realizing the potential. Without suitable skills, this potential cannot be realized (Ilina, Hoffman, Haro, & Shinyoung, 2011). Today, skills gaps are recognized as a major bottleneck in several sectors, such as, infrastructure, energy and environmental services. Capacity gaps hinder or retard the drive to advance adaptation processes both at the national and global level.

The skills assessment undertaken for the NAP process seeks to take stock of skills available in the country and locate these in the institutions after which gaps will be identified for future skill building to implement the Bhutan NAP. Technical, managerial as well as operational skills are required for NAP implementation and to ensure that adaptation planning, implementation and monitoring and evaluation are sustainable, they need to be built into the existing system. The assessment of human and institutional capacity is recognised within Element A of the NAP Technical Guidelines (“Laying the groundwork and addressing gaps”): the “identification and assessment of institutional arrangements, programmes, policies and capacities for overall coordination and leadership on adaptation” is identified as a key aspect of this element. In practice, human and institutional capacities are an integral part of each of the four NAP elements, from laying the groundwork and addressing gaps, to implementation strategies, reporting, monitoring and review.

As an LDC, Bhutan has very little resources earmarked for capacity building in climate adaptation and the projects financed by development partners which have built some capacities were scattered throughout the different agencies with very little coordination or collaboration among these agencies. Many of the skills required for formulating the NAP and implementing them will need to be identified through this skills assessment exercise and a strategy for skills development at both individual and institutional levels charted out.

While generating information is an important element of knowledge management, the information will not have an impact unless it is processed, analysed, and disseminated to those in need in a format that is easily understood. Moreover, climate change science is continuously being updated, and new information and knowledge products in the form of coping strategies, technologies, and monitoring mechanisms are continuously being developed at national, regional, and global levels. These knowledge products do not necessarily find their way to potential beneficiaries, especially those at the forefront of climate change impacts—farmers, highlanders and vulnerable communities. These include:

- (i) disconnect between climate science and policy applications;
- (ii) data and modelling needed to answer fundamental questions, and specific tools needed to make more informed decisions when developing climate action plans; and
- (iii) knowledge management.

The latter is constrained by the absence of an appropriate institutional architecture. The effectiveness of institutions and agencies in addressing the impacts of climate change across sectors, communities, and vulnerable groups (and especially women) is constrained by inadequate awareness; this is further exacerbated by information gaps, and limited capacity for information generation, analysis, and knowledge management. These are manifested in the absence of processes and procedures needed for capturing and sharing information and knowledge that meets the needs and priorities of stakeholders.

1.2. Existing Climate Change Training Initiatives and Programmes

At the central level, the Department of Local Governance (DLG) under the Ministry of Home and Cultural Affairs, and the Local Development Division under the Gross National Happiness Commission play a key role in preparing the capacity development (CD) master plan and training materials. The DLG is mandated to promote and strengthen local governance, coordinate development of the Local Government's capacities and bolster the inter-governmental coordination. Together, the two are required to coordinate and oversee development activities and provide various technical backstopping to the Dzongkhag and Gewog authorities.

There have been multiple studies on capacity assessments and trainings for climate change adaptation in Bhutan. Some of the climate change initiatives and skills assessment programmes that were conducted in the past include a climate change screening that was conducted in 2009 by Danish International Development Agency (DANIDA) in Bhutan. The study lists a set of findings and comprehensive recommendations that highlight interventions necessary for Bhutan to enhance its adaptive capacity to climate change. The study found that there was a strong need for capacity development on climate change in areas such as research on climate change, meteorological and hydrological services, climate modelling, collecting and managing climate data, preparing agricultural sector for climate change, community-based early warning systems. There was also a need for capacity development of the technical staff in relevant line ministries and to build awareness on climate change for local government and civil society (Royal Government of Bhutan, 2009).

In 2011, a capacity development strategy for local governance was finalized under the auspices of the Local Governance Support Programme (LGSP). A training needs assessment was carried out and trainings were successfully conducted on topics such as planning & prioritization, environment, climate change, basic IT skills, office management, land management, waste management, leadership, disaster management, dispute resolution, project management skills and the use of PLaMS, and PEMS (National Council of Bhutan, 2016). Under the GECDP mainstreaming programme DLG is working with 100 Geogs that have been identified for adaptation training through EU support.

DLG also published another report in 2012 as a comprehensive Capacity Development Strategy for local governance in Bhutan. The report identified areas of capacity development for local governance, challenges faced and developed a capacity development strategy action plan and budget estimates. The report also highlights the need for integration of climate change in area-based local development planning processes through climate change vulnerability mapping, climate change adaptation activities and developing low carbon economic development pathways and incentives for climate change mitigation.

In 2017, under the Strategic Program for Climate Resilience (SPCR), a study identified the need for capacity building of Department of Forests and Park Services (DoFPS) technical staff and communities for climate change adaptation and capacity building of Government to support private sector engagement (Royal Government of Bhutan, 2017).

In 2018, NCHM, with the support of WMO, organized a stakeholder workshop during 7-9 November 2017 to assess the capacities and needs of providers and users of climate services in support of decision-making by the agriculture sector in Bhutan in Thimphu. The study identified need for capacity building in GIS, modelling and in utilizing relevant climate information and forecasting (Royal Government of Bhutan, 2018).

However, there is at the central ministries level no well-developed capacity development strategy that also addresses climate adaptation needs across all levels of stakeholders.

2. Framework for Skills Assessment

Greater resilience to the impacts of climate change can be expected once all the necessary skills are in place at all levels - policy, organization and operation. These necessary adaptation skills can be categorized as managerial, technical and participatory. The following diagram taken from the UNITAR's methodology on Skills Assessment for National Adaptation Planning (2015) represents how the skill sets cut across different sectoral concerns (environmental, economic, and social) and different levels of implementation (policy, organizational, operational). This will form the basis of skills assessment:

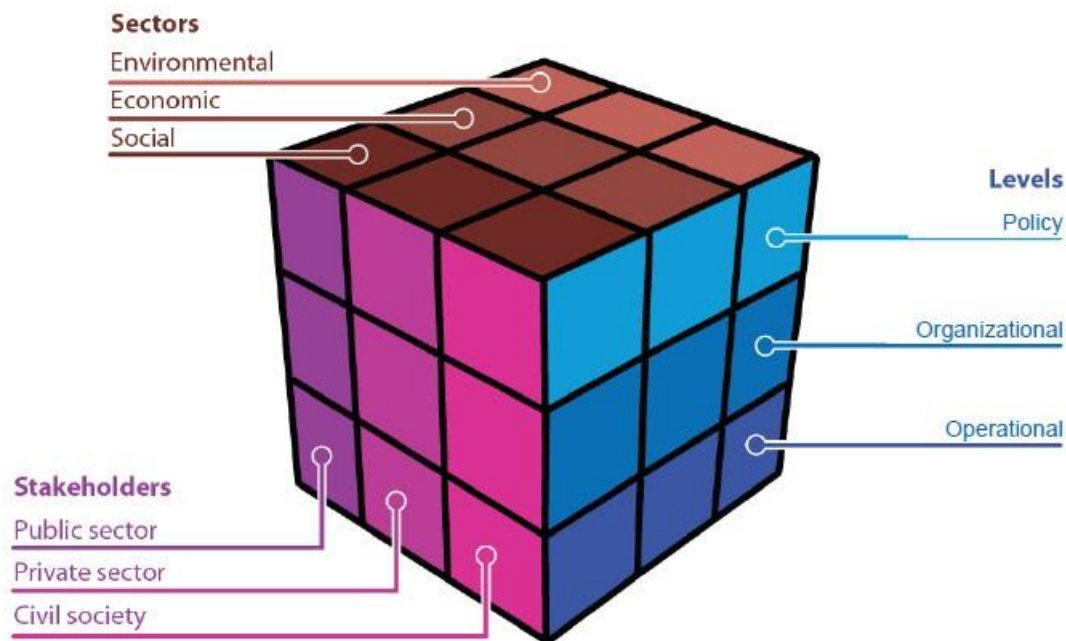


Figure 1: Complementary skills cube (UNITAR, 2015)

In the skills assessment exercise, desk research has helped to review the relevant documents - key policies and previous capacity assessments, define the purpose and scope of the assessment, and to identify the teams, departments and individuals to participate in the assessment. By analysing the collected data or information the report on the existing capacities and skills as well as existing gaps are identified, which will further help to develop the skills development roadmap to address capacity gaps and weaknesses in undertaking the NAP process.

Staffs from the policy, organizational, and operational levels were selected for assessing their skills using a semi-structured questionnaire through one-to-one interviews:

- **Technical Skills** - required to understand the science of climate change, issues of vulnerability and risk, and the prioritisation of adaptation options. (12 core skills with 48 sub-skills)
- **Management Skills** - are required to organize and maintain complex social organizations. These include leadership, supervisory, and delegation skills. (12 core skills with 45 sub-skills)
- **Participatory Skills** - are required to promote and sustain cooperation, ownership and action (12 core skills with 52 sub-skills)

2.1. Methodology

A qualitative assessment was conducted in order to understand the learning and skills development needs in more detail. By using these methods the qualitative FGD sessions helped explain the capacity gaps that existed. In parallel, key informant interviews with questionnaire based on key skills (please refer Annexures) were conducted at national and district levels with government and civil society policy makers and service providers. The aim was to understand the institutional context in which to strengthen human resource learning and skills development. An indicative process workflow is given in Figure 2.

Based on the above mentioned UNITAR's (2015) methodology to assess the individual capacities needed to support NAPs, a total of 36 adaptation planning skills were assessed (12 Technical, 12 Management, and 12 Participatory). Each skill with its associated sub-skill areas is provided in Annexures. Not all departments were assessed for the complete set of skills; rather there was a basket of skills related to the sector that were taken into consideration. A competency rating was selected for each sub-skill to quantify proficiency in each one. The chosen rating system is based on the Kirkpatrick model of learning and is focused on competency. The scoring for the chosen skills level is defined by three levels of achievement:

- A. Acquiring: Minimal experience or knowledge from brief, unstructured or informal observations. Basic ability to apply the skill in a practical situation. Scoring Value: 1
- B. Competent: Experience has been acquired. The skill has been practiced and is usable in a practical situation. Knowledge has been acquired and can be articulated to others in a practical situation. Scoring Value: 2
- C. Highly Competent: Extensive experience has been acquired. The skill has been frequently practiced and is highly usable in a practical situation. In-depth knowledge has been acquired and can be articulated to others in practical situations. Analysis of the acquired knowledge can be manipulated and re-utilized to achieve more complex alternatives. Scoring Value: 3

One official each from the department was consulted at both Organizational/ Institutional level and one at the Operational/ Individual level. The score was then given as per the team's expert analysis. Once the collation of the scores was done and the data was analysed, with support from UNDP a validation workshop was organized in Phuentsholing on 10th January 2020 to validate the findings of the assessment and to suggest long and short-term priority actions required to address priority learning and skills needs with the long-term aim of developing skills development strategies in selected sectors.



Figure 2: Indicative Workflow

3. Summary of Capacity Constraints

It is widely understood that skills development is critical for developing capacities across institutions that help stimulate development. To assess the learning and skills needs of various individuals and institutions, the survey results of this study were analysed, and the results indicate that capacity gaps exist and are a hindrance to the effective implementation of the institutional mandates as well as delivering on the individual roles and responsibilities. Based on the indicative workflow suggested by UNFCCC (2012), the following was developed for the Bhutan context.

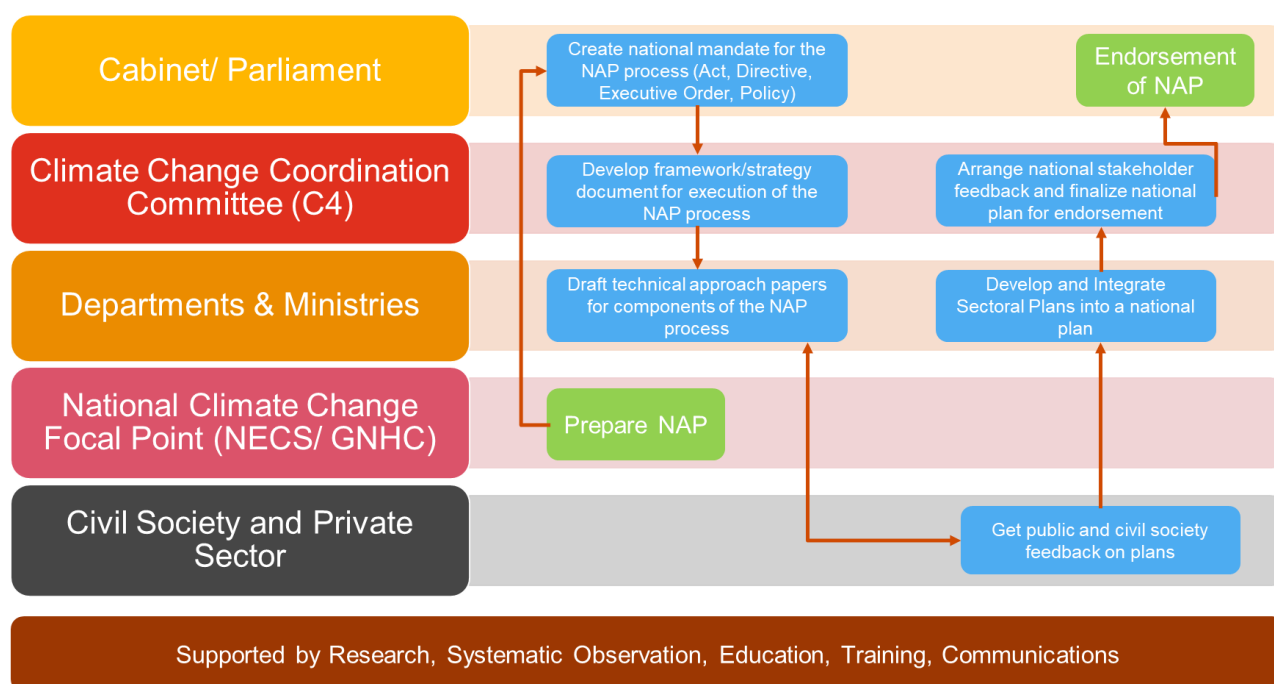


Figure 3: Indicative process flow for the NAP process at the national level (Source: UNFCCC, 2012)

Based on the diagram above the institutions consulted for the skills assessment are divided into the following.

Table 1: List of Stakeholders Consulted

Institution type	Name
National Climate Change Focal Institutions	NECS, GNHCS, NCHM
Central Ministries/Departments/ Technical Support	MoWHS (WFP, FEMD) MoEA (DRE, DGM, EU-DOI , DHPS) MoAF(DOA, DOFPS) MoHCA (DDM, DLG)
Local Government Institutions	Gewog level officials, Dzongkhag administration, Thromdes
Civil Society/ Private Sector	DHI, BCCI, ABI, CAB, CSOs (Tarayana Foundation)
Research and Support	RUB and REC

The report is divided into the elaboration of technical skills of each institutional type and both the organizational/ institutional level and the operational/ individual level. The management and participatory skill sets were considered equally important across all sectors and are therefore combined in a section together.

3.1. National Climate Change Focal Institutions

The National Climate Change Focal Institutions are those which are closely linked with international institutions and with a mandate to work on climate change. They are responsible for driving the process and formulation of key aspects of the NAP process. These institutions also oversee the technical and planning processes for NAP. The organizations have been identified for the same in Bhutan: GNHCS, NECS and NCHM.

The Gross National Happiness Commission (GNHCS) is the central government body for coordinating and spearheading policy formulation to ensure cohesion between sectoral policies and alignment with the national development objectives and GNH, guides and directs the formulation of long term perspective plans to provide guidance for future development policies and plans, provides guidance and direction for the formulation of five year development plans, reviews and recommends the allocation of resources for five year development plans and also serves as the National M&E body for the Five Year Development Plans. The GNHCS is the National Designated Authority (NDA) for the Green Climate Fund.

The National Environment Commission Secretariat (NECS) is a high-level autonomous agency of the Royal Government of Bhutan and is mandated to look after all issues related to environment in Bhutan. It is also the National Focal Point for the UNFCCC and houses the focal person for the LDC Expert Group.

The National Centre for Hydrology and Meteorology (NCHM) is the central agency mandated to be the repository of climate information including glaciers, GLOFs and hydrological structures. It is the focal point for Intergovernmental Panel on Climate Change (IPCC) and World Meteorological Organization (WMO), as it develops the climate projections required for the National Communication (NC), Biannually Updated Report (BUR) etc.

The skill sets assessed for these organizations are as follows with the 3 technical skills (T.7, 11, 12) particularly focussed on NCHM.

Technical Skills Assessed:	Management Skills Assessed:	Participatory Skills Assessed:
T1. Climate Change Science and Policy T3. Climate Change Mainstreaming and Implementation T5. Climate Change Economics and Finance T6. Climate Risk Assessments T9. Integrated water resources Management T7. ICT, GIS And Data Management* T11. Disaster Risk Management* T12. Climate Change Modelling and Scenarios*	M1. Strategic Leadership M2. Social Responsibility M3. Visioning, Innovation And Inspiration M4. Advocacy M5. Time Management M6. Results Based Management (RBM) M7. Financial Management M8. Organizational Conflict Management M9. International Diplomacy M10. Project Management M12. Reporting	All Skills

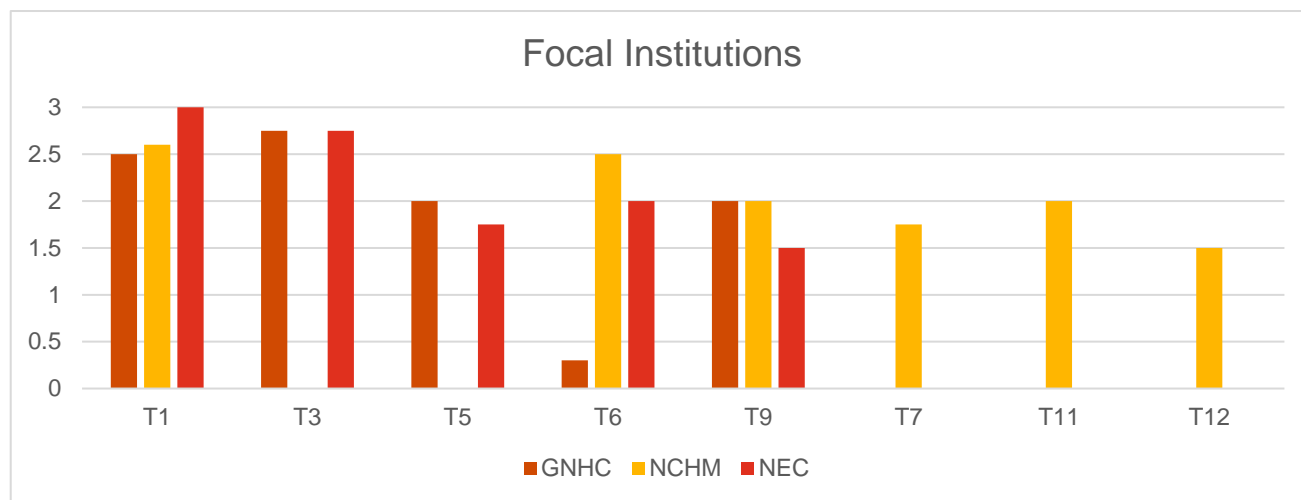
*only for NCHM

The NECS while being the focal point for the NAP process has adequate knowledge of climate science and policy as well as for mainstreaming and implementation of such projects. There are however some need for skills on climate finance and economics which would help in conducting its overall mandate. Additionally, there is an acute shortage of man-power both in the Climate Change Division and the Environment Assessment and Compliance Division. It was stressed that recruits to address this acute shortage will need capacity building to take on the responsibilities as the national focal point as well as mainstreaming climate issues into the environment clearance system.

Currently NCHM has reasonable capacity to carry out weather forecasting and store weather information on a central database. It also carries out studies on the cryosphere and records the glaciers of Bhutan while continuously carrying out climate vulnerability and disaster risk studies due to climate induced Glacial Lake Outburst Floods. The requirements in this technical authority is on additional skills to interpret climate model outputs, analyse high resolution satellite images and develop long term climate forecasts based on downscaling of regional Digital Elevation Models (DEMs).

The NCHM communicated a lack of GIS and high resolution satellite images to study trends of climate change impacts, Remote sensing and data storage facilities and capacities for high level projections. Data provision currently seems to be need based and there is no automatic dissemination of data, assistance in data analysis. Water/ hydrological modelling is done, but with support from Central Water Commission (CWC), Government of India. It was communicated that the NCHM needs to develop in house capacities to completely develop such forecasts. It was also indicated that current hydrological models are project based and static in nature and skills development and resources for dynamic hydrological model is needed. There is also a need for expertise in long-term forecasting. Current forecasting is perceived to be inadequate for agricultural and other climate-sensitive activities.

The Gross National Happiness Commission has basic knowledge and skills in climate change mainstreaming into the national development plans, however, it was felt that additional skills in understanding climate risks and opportunities, exposure to good practices from NAPs in other countries with similar geographic and economic conditions as well as results based management would complement the existing skill sets for both formulating and implementing the NAPs. As the central agency mandated for resource mobilization, it was felt that additional skills and capacity to understand the requirements of various financing mechanisms are needed.



The required expertise and skills in policy implementation, sector wide approaches and the national budgeting processes, particularly allocation of budget from different sources in priority planned activities are present, however, technical skills in climate change mainstreaming is felt needed. As the central planning and M&E body in Bhutan, skills and knowledge in climate adaptation assessments and climate proofing of plans, programmes and projects are felt needed. Additionally, knowledge in water resources policy and governance would help in strengthening the role of the secretariat to mobilize resources from international financing bodies.

3.1.1. Institutional Assessment

There is a clear mandate for the GNHCS, NECS and NCHM to work on climate change and adaptation, particularly in climate modelling, data repository, vulnerability assessments, resource mobilization from international sources to finance adaptation etc. The cost of adaptation has been partially assessed by NECS, GNHCS but only for immediate actions through the NAPA processes.

There is a gap in coordination between NCHM and other ministries/ departments that need climate related info to make decisions. Involvement is very basic and not in detail, there are some MOUs with universities, but

such relationships need to be enhanced and used rigorously. There is an inherent absence of institutions within the country that provide need- based training on climate change adaptation to fulfil specific needs of the different departments like Forests, Agriculture, Disaster management etc. There are resource gaps in the sense of data availability/ high end computers. Skilled staff are required considering the high rate of staff attrition.

As adaptation plans were made based on availability of finances, they are more project based and the institutional arrangements are project based which may need upscaling to national level ones. Various financing frameworks are available from past projects and the ideal one for NAP will need to be developed.

3.2. Central Ministries/Departments

The central ministries/ departments provide technical support in sections of the NAP as well as integrate adaptation into sectoral plans. They also form a major part of the Thematic Working Group that is critical to development of NAP. Being from various sectors the skills required among them varies, however they are critical for technical support to the NAP process. Following central ministries and their departments have been consulted during the course of this exercise:

- MoWHS (WFP, FEMD)

The Ministry of Works and human Settlement was established in 2003 and currently has the Department of Roads, Department of Human Settlements and Department of Engineering Services (DES). Under the DES, Flood Engineering Management Division works on undertaking studies and carrying out interventions to reduce the vulnerability of the communities and infrastructure to flooding. The Water Flagship Programme (WFP) aims to provide safe and affordable water, adopt measures to adapt to impacts of climate change on drinking water to protect environment and human health.

- MoEA (DRE, DGM, DOI, DHPS)

The Ministry of Economic Affairs comprises of seven technical departments namely, the Departments of Trade, Industry, Cottage Industry, Renewable Energy, Hydropower and Power Systems, Intellectual Property and Geology and Mines. It also has the Office of Consumer Protection as an independent authority under the Ministry. The Environment Unit (EU) is under the Department of Industry mandated to oversee all environmental issues in the manufacturing sector including issuance of environment clearance as well as carrying out compliance monitoring. The Environment Unit also acts as the focal point of the Ministry on environment and climate change issues. The DRE and DHPS are part of the energy unit focussing on alternate/ renewable energy and hydropower systems. The DGM works on geo-scientific studies, mine approvals and scientific management of mineral resources.

- MoAF(DOA, DOFPS)

The Ministry of Agriculture and Forests aims to ensure sustainable social and economic well-being of the Bhutanese people through adequate access to food and natural resources. It manages forests, livestock and agriculture, the most climate sensitive sectors for Bhutan and also has a critical role to play in both climate mitigation and adaptation.

- MoHCA (DDM, DLG)

The Ministry of Home and Cultural Affairs houses multiple departments spearheading the efficient functioning of decentralized administration in Bhutan. The Department of Disaster Management (DDM) promotes, supports and facilitates disaster management to reduce disaster risks while the Department of Local Governance (DLG) is mandated to promote and strengthen local governance; to coordinate development of the Local Government's capacities; and to bolster the inter-governmental coordination. Following are the skills assessed in these departments:

Most departments consulted are still acquiring key skills such as Climate Change Mainstreaming and Implementation, Climate Change Economics and Finance, Climate Risk Assessments for adaptation. If not all, most communicated a lack of expertise and experience in these subject areas. DDM has carried out Hazard and Vulnerability Assessments (HVA) for most of the dzongkhags and dzongkhag disaster management and contingency plans have been developed.

They have an understanding on basic concepts of climate change but may need training on adaptation specific needs and international agreements, particularly on climate induced disaster risk reduction and hazard identification. Disaster management is carried out as a standalone concept and not directly linked to climate change within their sectoral plans. There is also no dissemination of UNFCCC COP outcomes to the agencies

or loss and damage decisions from the COP to these sectors. Moreover, whatever climate information available is not completely understood by officials in context to their work.

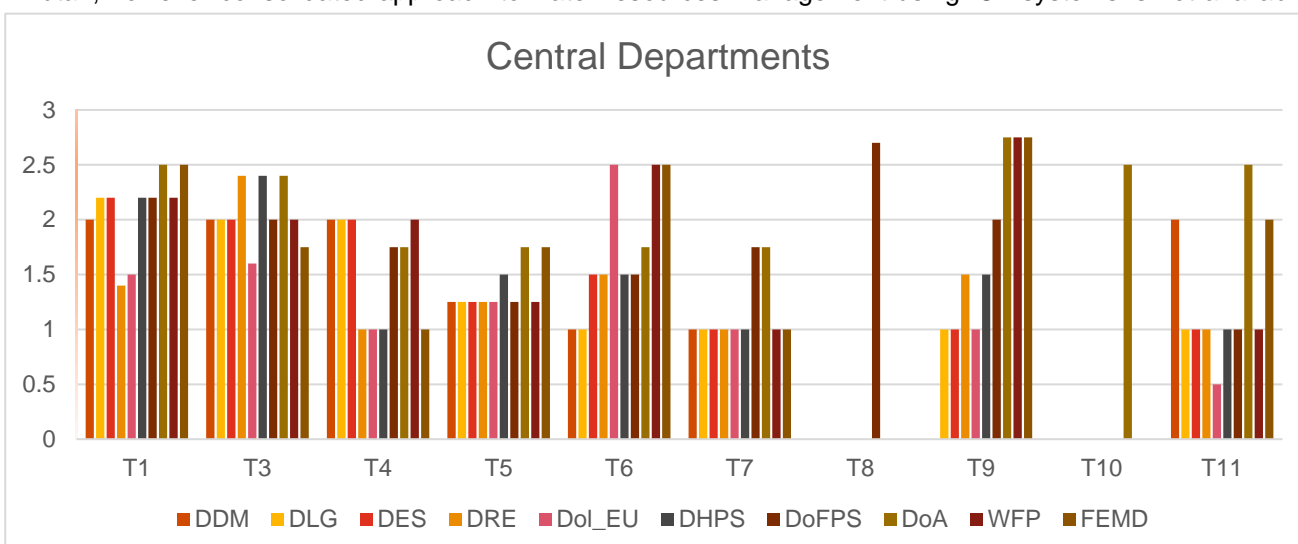
Technical Skills Assessed:	Management Skills Assessed:	Participatory Skills Assessed:
T1: Climate Change Science And Policy T3 Climate Change Mainstreaming And Implementation T4. Legal And Negotiation Skills T5. Climate Change Economics And Finance T6. Climate Risk Assessments T7. ICT, GIS And Data Management T8. Sustainable Forest Management** T9. Integrated Water Resources Management T10. Sustainable land management (SLM)* T11. Disaster Risk Management	M1. Strategic Leadership M2. Social Responsibility M3. Visioning, Innovation And Inspiration M4. Advocacy M5. Time Management M6. Results Based Management (RBM) M7. Financial Management M8. Organizational Conflict Management M9. International Diplomacy M10. Project Management M12. Reporting	All Skills

*DoA only **DoFPS only

Skill such as Sustainable Forest Management and Sustainable Land Management are unique to the DoFPS and DoA. For these skills adequate capacities exist through the implementation of the GEF/World Bank/ NAPA and other climate adaptation projects. Climate change consideration in the form of participation as CDM projects are included in the project Detailed Project Reports (DPRs).

The agencies have some knowledge in impact assessments but need training on vulnerability assessments and mitigation and adaptation assessments on climate induced disasters. There is a need of additional skills in risk quantification, risk reduction and risk transfer including the computation of loss and damage costs. Specifically, skills are required to analyse and identify climate change risks to hydropower projects and plants.

In DDM, an IT associate currently handles the ICT and GIS system at the department and more needs to be done in terms of creating ICT systems for disaster management and ensuring sustainability of such a system. In Department of Agriculture, ICT and GIS have been used since the early 2000s to prepare Land-use maps of Bhutan, however consolidated approach to water resources management using ICT systems is not available.



In DoI-EU there is usage of an Environment Management Information System for environment clearance issuance, renewal and compliance monitoring. But it was indicated that the potential use of a GIS based database which can also provide additional information on GHG emissions, mitigation and adaptation activities would be useful.

Most individuals across the technical agencies have a basic understanding of environmental and mainstream economics, however, application of these principles in loss and damage and adaptation costs have never been taken up. Officials have general idea about climate finance, particularly through multilateral banks and GCF but expertise in integrating sectoral policies/actions plans/activities into the relevant budgeting processes to account for climate change adaptation related activities is lacking.

Currently water resources management mandate is spread across different agencies, for instance, catchment and source protection is taken up by DoFPS while supply side activities are mandated to the Water Flagship Program. Earlier rural water supply mandate was with Ministry of Health whereas urban water supply was with Ministry of Works and Human Settlements, however as part of the broader plan for a nodal point for all water resources even rural water supply has been moved under the Water Flagship Programme. A consolidated approach to water resources management using ICT systems is felt needed with real time monitoring of water availability. Additionally, skills are also required for innovative technologies for flood prevention and management

3.2.1. Institutional Assessment

Barring one department that is Department of Agriculture (DoA) no other department has climate change adaptation in their mandate, institutional plans and sectoral plans. There are however components of CCA present in the work programmes of WFP and Environmental Assessment and Compliance Division, NECS(EACD). Further there are no climate change focal points in the sectoral departments, however recently some sectors have been involved in CCA through thematic working group membership of the NAP process.

While WFP has a component on climate resilient water infrastructure, most departments do not have climate change financing frameworks and climate change adaptation integration into budget management systems is non-existent across the departments.

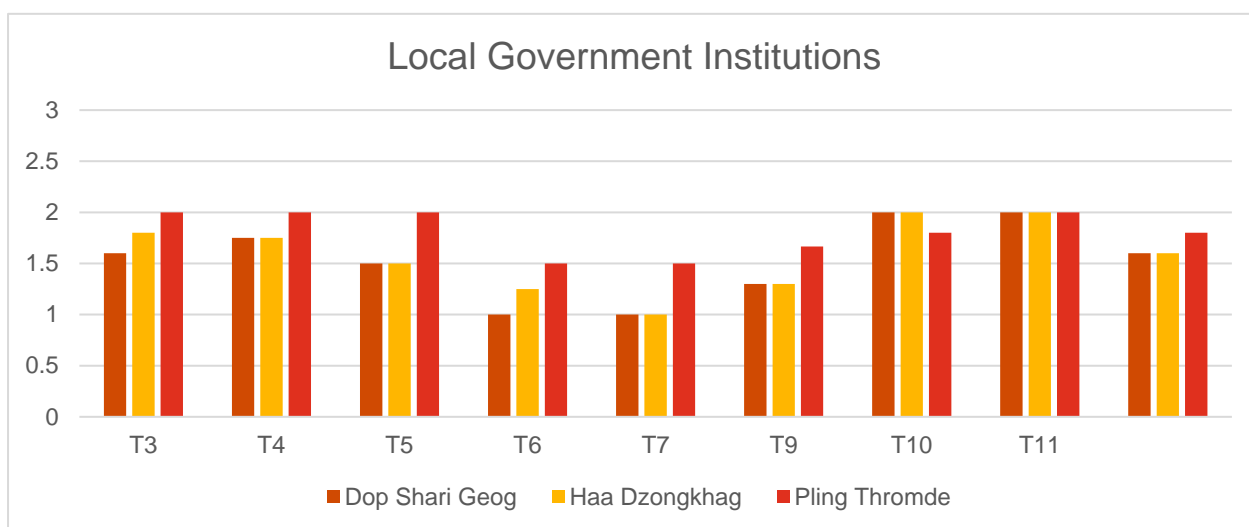
Nearly all departments do not have tie-ups/ coordination with national training institutions to design and deliver courses to develop capacities for NAP. There are some technical tie-ups with universities for research and data management.

3.3. Local Government Institutions

The Local Government Act of 2009 establishes local governments in each of the twenty Dzongkhags, each overseen ultimately by the Ministry of Home and Cultural Affairs. It also established an updated list of administrative divisions. Following are the ones that were consulted for this analysis:

- Dzongkhags (districts): Haa
- Gewogs (blocks): Dop Shari
- Thromdes (municipalities): Phuentsholing

These local government institutions are responsible for variety of objectives, including promoting Gross National Happiness; providing democratic and accountable government; preserving culture and tradition; promoting development; protecting public health; and discharging any other duties specifically created by other law.



The community and local dimension are crucial to ensure that actions defined in the NAP reach the most vulnerable areas. In many cases the implementation of climate change learning programmes can be more effective with a bottom-up approach. The officials at this level have practical experience of climate change impacts as visually observed and felt but they have no scientific knowledge or skills in climate change. For instance, their mandate is to provide 24 x 7 safe drinking and irrigation water to their administrative division in the 12th FYP and this is in part threatened by shrinking water sources.

Adaptation knowledge is basic, and the Dzongkhag/ Gewog is dependent on central policy and directives on climate change adaptation. The officials are not trained to take up adaptation assessments and feel that the institutional capacity can be enhanced with adequate training and exposure. They have knowledge on local budgeting and planning process, but climate adaptation specific planning and budgeting has not been taken up. More specifically knowledge and skills to carry out economic assessments and adaptation costs is absent. There is lot of work that takes place focusing on development including grey infrastructure (building of farm roads etc.), but not enough understanding of adaptive elements within these actions. Climate adaptation is not part of development planning and therefore is seen as an additional activity subject to availability of resources at local government institutions. Climate adaptation budgeting is also limited to specific project level budgets which are usually development partners funded. While the DLG is focusing on climate change adaptation works through GECDP In 12 gewogs with focus on building climate adaptation capacity with plans to expand to 100 gewogs through the LoCAL program, there is a lack of coordination and cooperation with national level stakeholders including for national and international climate policy/finance.

3.4. Non-Government Organizations/ Civil Society Organizations/ Private Sector

In many countries NGOs have been the pioneers in climate change training programmes and can provide useful input to design effective programmes with innovative methodologies. Engagement of grassroots organizations such as women's groups, farmers' organizations, indigenous peoples' groups and others may lead to the identification of informal education activities such as knowledge sharing between communities and farmer-to-farmer visits. The key NGO/ CSOs in Bhutan that were engaged for this exercise are Tarayana Foundation, ABI (Association of Bhutanese Industries) and CAB (Construction Association of Bhutan).

Business associations, private sector networks and trade unions can help in fostering a green and climate resilient economy as it demands deep and far reaching transformations in all sectors of society. The private sector, as a key agent for change, can be involved in defining training and educational needs for a future workforce with the necessary skills to drive the green transition. Druk Holdings and Investments (DHI) is the investment arm of the Royal Government of Bhutan operating in the manufacturing, energy, natural resources, financial, communication, aviation, trading and real estate sectors and feels that policy directives and mandates on climate adaptation should come from the government for them to be involved in it.

The CSO/ NGO sector has engaged in capacity building of communities in Bhutan. They have a strong experience of working on climate change adaptation and implementing similar projects. They also acquire skills from government level officials to carry out local climate actions that impact the communities. A strong skill present among the CSO/ NGO sector are participatory skills especially in community mobilization, participatory learning and action (PLA) etc.

The Private/ Corporate Sector in Bhutan has basic understandings of climate change, however, besides few project- tied interventions, are not actively engaged in climate change adaptation. These organizations are dependent on policy and regulatory directives from the government to take up climate change adaptation and should such directives come, corresponding skills and capacity needs to be built. At present they are limited to environmental strategy. Also, some private sector entities perceive environmental management and legislation (e.g. environmental impact assessments) as a barrier to their activities.

3.5. Academia and Research Institutions

Academic institutions are important interlocutors to understand the current landscape of climate change learning activities. They are key partners in terms of addressing the capacity gaps identified through the NAP process.

The academia and research institutions in Bhutan comprises of the Royal Education Council (REC) responsible for the development of curriculum for the primary and secondary level of education while the Royal University of Bhutan, the Khesar Gyalpo University of Medical Sciences of Bhutan (KGUMSB) and research institutions of the technical departments such as the Ugyen Wangchuck Institute for Conservation and Environmental Research (UWICER) are responsible for the tertiary level of education. Technical Vocational Education and Training (TVET) institutes scattered across the country provide technical and vocational education to interested students. Under the Royal University of Bhutan, various undergraduate and postgraduate (masters) courses cover climate change mitigation and adaptation as part of the curricula while the primary and secondary education contain climate change as a course content in the environmental studies subject. The TVETs currently do not have a curriculum on climate change.

The REC develops the curricula for climate change and environment education for primary and higher secondary schools. Climate change is addressed in Environmental studies as well as science subjects from classes PP to XII. The REC has adequate capacity to develop curricula but felt that updating their knowledge on climate specific developments would enable them to incorporate updated knowledge and science in the curricula.

RUB has been offering various environmental science and climate change related programmes through Sherubtse College, College of Natural Resources. Jigme Namgyal Engineering College offers bachelors in power engineering with a strong focus on renewable energy and College of Science and Technology offers Master of Engineering in renewable energy. Other relevant engineering programmes such as civil engineering have climate change subjects embedded. The College of Natural Resources offers Bachelor of Science in Environment and Climate Studies and master's degree in Natural Resource Management. It has plans for starting conservation science programme at master's level. Sherubtse College offers Bachelor's degree in environmental science and has plans to develop and offer master's in environmental science. The Royal Thimphu College, a private academic institution affiliated to the RUB also offers a Bachelor's degree in environment management. Most of the academics in these colleges have at least master's degree and some of them even have Ph.D. They also have some experiences engaging international partners in conducting and carrying out research and their laboratories are improving with some sophisticated machines put in place. Therefore, RUB Colleges are ready to carry out research and technical services related to climate change monitoring and modelling, promoting R&D and capacity development in climate change, adaptation, vulnerability and risk assessment and other areas. However, it was felt that provision of a common platform to share and disseminate research findings would further help build the capacity of these institutions. Enhancing new skills and knowledge in the technical educational institution to promote green and climate resilient economy would be necessary, development and use of state-of-art technologies for building climate resilience and pursuing low carbon developmental pathways, strengthening sectorial institutional capacity building to access climate finance and program, enhance capacity for air and water quality monitoring and forecasting services and enhancing geological knowledge for all land use planning since developments are mostly based on earth systems (Gross National Happiness Commission, 2019). These are also the priorities in capacity building identified by the Royal Government of Bhutan.

3.6. Management Skills Assessment

Management skills are required to organize and maintain complex social organizations. As per UNITAR (2015), these include leadership, supervisory, and delegation skills. An individual with management skills can oversee the process of mainstreaming climate change. They are also able to build an enabling environment for progress and change, by helping to create the space within which concrete adaptation action can take place. They may also bring in resources for programs needed to ensure that deadlines are met, and that results are monitored and evaluated. Another specific skill that was communicated lacking was Organizational Conflict Management, due to overlapping mandates and funding ambiguity for some sectors, in many instances certain climate-related mandates were not very clear between different agencies thereby limiting adaptation planning.

Adequate skills are available for strategic management and leadership across most of the stakeholders consulted. Skills are also available for social and economic impact management, however, management skills in understanding environment and climate change impacts from development activities was lacking. With Annual Performance Agreement (APA) and PLAMs/PEMS in place there are adequate capacities on strategic thinking and Results Based Management (RBM). Some of the central ministries and departments communicated need of new skill sets in advocacy, time management, stakeholder engagement and project management.

3.7. Participatory Skills Assessment

Participatory skills are required to promote and sustain cooperation, ownership and action. At an individual/operational level, participatory skills can help create a welcoming and engaging environment that brings people and organizations together, encourage individuals to express diverse views, create consensus and build ownership over decisions made. Adaptation planners use participatory skills to liaise with counterparts in another ministry or between national and sub-national levels (UNITAR, 2015).

All the departments assessed, due to the programme on Gender, Environment, Climate Change, Disaster and Poverty (GECDP) mainstreaming, have gender lens adopted in most of their actions and programmes. It has also allowed for inclusion of cross-cultural understanding. Some of the key skills that seemed lacking are coordination and communication. There is a gap in identifying mutual objectives and stakeholders that would benefit from coordinated planning and implementation of adaptation related plans and programmes in the departments. In the technical institutions there is a need to develop knowledge and experience in conveying information required for an audience in a proper format to be adequately informed and act. From the climate change coordination committees and other groups there was a need for training for maintaining contact with the members, sharing information among each other and keeping track of developments, issues, challenges or achievements. However, with the formation of the Technical working groups (TWG) for NAP, this gap seems to have been addressed to some extent.

3.7.1. Inter-sectorial coordination on adaptation

While there are existing institutional arrangements such as the National Technical Working Group for NAP, TNC as well as the Thematic Working Groups of NAPA, outside of these informal settings, coordination and collaboration on climate change adaptation is limited. Collaboration between the NCHM and technical agencies seems to be better than those among the technical agencies as most of the technical agencies obtain their data requirement from the NCHM. The technical agencies seldom collaborate and coordinate actions on climate adaptation amongst each other and many of the stakeholders consulted felt that climate adaptation works among the different technical agencies needed to be coordinated by either the GNHC or the NECS to avoid duplication of efforts and use of resources. The stakeholders felt that additional skills in collaborative planning, implementation and M&E would help in the NAP process. There is also participation of local government in national level adaptation planning that is still lacking to the extent required.

4. Conclusions and Recommendations

National Adaptation Plans (NAPs) are among the new processes to bolster the capacities of developing countries, particularly within the public sector, to address climate change risks. The skills development efforts across multiple countries have initially focused on increasing understanding of climate science and enhancing the policy structure at the national level. As public awareness of climate change is increasing, more sophisticated capacity development approaches are being embraced to make better sense of the complex mix of institutional measures needed for adaptation planning to be successful.

The current skills assessment for Bhutan reflected that it is not at the beginner stage as some capacities already exist in the different agencies of the Royal Government of Bhutan required for the NAP process while some need to be developed. In general, it was found that skill sets at the central government level were either somewhat adequate or were in the process of being developed while local government and private sector knowledge on climate change adaptation were found lacking. Climate change adaptation skill development does not feature in the local development plans, unless a project with focus on climate change adaptation is being implemented. For instance, the lack of capacity at local government level to address climate risks have been identified as a primary constraint (Department of Local Governance, 2002), the identified capacity building seems to be in mainstreaming climate change issues into development planning together with environment and gender and specific capacity building plans for climate adaptation do not exist. At local government level, adaptation knowledge is basic and the local government institutions were dependent on central policy and directives on climate change adaptation.

The central agencies have sound technical knowledge as evident from the interview worksheets and these also depended on the core responsibilities of the agencies. Except for the National Environment Commission Secretariat (NECS), most of the agencies had adequate manpower and stressed the need for building capacity of existing staff on a continuous basis.

While it is difficult to list all possible types of skills necessary to ensure an effective adaptation planning process.² Some of the skills are recommended in the strategy section. Besides the strategy RGoB would also need to:

- Foster global, regional, national and sub-national cooperation for skill development. This technical support can be further supported by outside actors (such as aid agencies, central governments in the sub-national context, and non-government organisations)
- Identify and collect good practices, challenges, experiences and lessons learned on climate adaptive practices across Bhutan. Such a process of building a repository of good practices can help continue to strengthen capacity building efforts under the UNFCCC.
- Develop a mechanism of funding modalities that allow for programmatic support (GCF, CTCN, etc). National level investments in capacity building institutions are also important.
- Develop guidance on the maintenance and further development of a web-based capacity building portal. A critical role for the portal could be to share peer reviewed knowledge with national agencies as well as Dzongkhag and Gewog level stakeholders without cost; and record traditional practices for dealing with climate variability and change.

² UNITAR SANAP 2015

5. Strategy for strengthening skills and capacity of institutions

This chapter presents the strategy resulting from the stocktaking of human and institutional capacities. It is based on the stakeholder consultation as well as study done by the experts.

5.1. SWOT Analysis

Strategy analysis was conducted through SWOT analysis. A key component of medium- or long-term planning is the review of internal and external environments, capacities and capabilities. The most popular model for such is the SWOT (strengths, weaknesses, opportunities and threats) model. SWOT analysis is a simple tool to predict the best way in conducting strategies.

The process of SWOT analysis was conducted at two levels: organizational and operational/ individual. The analysis was based on group consultation and literature review. The strategy options are based on the objectives of skill development and internal weakness and strength and external opportunities and threats.

The result of a SWOT analysis can be taken as competitive advantage to achieve desired goals and convert current weaknesses into future strengths, as well as minimize impacts that external threats have on its objectives. During the stakeholder workshop after the internal and external components were identified, the next step was conducting brain- storming of possible strategies through FGD in groups (Nodal Institutions, Central Ministries/ departments, local government, CSOs, Private Sector and Universities).

Following are some of the key aspects of the SWOT for the human and institutional capacities:

National Climate Change Focal Institutions	
Strengths <ul style="list-style-type: none"> ▪ Availability of clear mandates on climate change adaptation, policy with NEC, NCHM and GNHC ▪ Existing governance structure (C4, GNH Commission, CCM) ▪ Regional and International engagements on climate change adaptation ▪ Reasonable capacity and skills in project proposal, assessment and implementation 	Weakness <ul style="list-style-type: none"> ▪ Inter-agency coordination and collaboration ▪ Weak M&E regarding climate change/ Lack of technical skills to assess climate change project particularly with GNHC-S ▪ Limited skills in V & A risk assessment with NECS and NCHM ▪ Lack of skills for assessment and other cost-benefit analysis tool for project proposal development
Opportunities <ul style="list-style-type: none"> ▪ Climate change policy in advanced stage ▪ Draft hydro-met policy is ready ▪ Linkage between allotted 12th FYP NKRA's and Climate change programs ▪ High chance to leverage on each other's institutional and human capacity. ▪ Access to climate financing through international commitments 	Threats <ul style="list-style-type: none"> ▪ Differing views within the agencies and territorial ▪ Change in personnel and lack of succession planning ▪ Dependence on external climate financing and no assurance through internal mechanisms ▪ Resource planning and mobilization limited to five years.

Central Agencies	
Strengths	Weakness
<ul style="list-style-type: none"> ▪ Individual capability is high and can lead to better results/productivity ▪ Control over work and work process ▪ Clear mandates on vision and mission in the central agencies ▪ Strong leadership ▪ Political Commitment and stability 	<ul style="list-style-type: none"> ▪ Lack of institutional memory due to movement of personnel and inadequate process for knowledge transfer ▪ Implementation skills for climate change programmes is not available ▪ Human Resource Shortages
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Opportunities to work with other experts in the technical field ▪ Integration and collaboration with relevant individuals ▪ Development of TWGs and capacity of TWG can be built. ▪ Opportunities to network/integrate and work together with other technical experts ▪ Integration and collaboration with relevant agencies 	<ul style="list-style-type: none"> ▪ Lack of support from Management/Agency to take up extended training programmes ▪ Sustainability of funding for capacity building for adaptation is not available ▪ Capacities and readiness for emergencies are not available ▪ Lack of consensus on Climate Change responsibility between departments

Other agencies (LGs, CSOs/ NGOs, Academia, Universities)	
Strengths	Weakness
<ul style="list-style-type: none"> ▪ Experience in project management, programming and planning ▪ Strong Networking and coordination among universities ▪ Expertise in climate science, climate modelling, glacial studies, GIS and RS skills ▪ Community based implementation skills, community and cross-sectorial consultations, community mobilization ▪ Experienced in conducting national and international research. ▪ Improved lab facilities ▪ Platform for sharing knowledge 	<ul style="list-style-type: none"> ▪ Lack of specialization in various fields related to climate adaptation ▪ Human resources shortages ▪ Senior/ managerial level officials interest different from operational level
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Recognize CSOs and institutions as strategic partners for climate change adaptation ▪ Industrial collaboration picking up in some places ▪ Training programmes for LGs through EU support 	<ul style="list-style-type: none"> ▪ Brain drain from universities and research institutions due to non-availability of lucrative options ▪ Funding constraints for research in academia ▪ Unattractive employment opportunity. ▪ Absence of a national level strategic direction on research. ▪ Lack of opportunity for exposure and international linkages

5.2. Strategy for addressing and strengthening the capacity and skills of institutions

Keeping into context the existing initiatives and programmes for climate change and the SWOT analysis carried out during the validation workshop, following are the key strategies to develop human and institutional capacities for NAP process in Bhutan:

Strategy 1: Capacity building on adaptation learning program into national education and training systems

Understanding that the future leaders and citizens of the country are groomed through the national education system, it is important to include climate change adaptation into the national curriculum and this can be achieved by implementing the following programmes:

- **Development of climate change learning module and curriculum:** Climate change is currently taught as a component of environmental studies (EVS) and focuses primarily on climate mitigation including the role of forests in absorbing GHG from the atmosphere. Modules need to be developed on climate adaptation which will also involve training of teachers and curriculum development in climate change adaptation, particularly for primary and secondary school education levels. This would also involve development of various climate change related academic programmes both at bachelors and master's level in the University. While it is important to have climate change adaptation modules at both secondary and tertiary education levels, it is critical to infuse these modules more at the tertiary level. The Royal Institute of Management (RIM) imparts preparatory courses to entry level civil servants and a module on climate change adaptation in the program is felt needed. Additionally, with the introduction of the National Service (NS), developing curriculum on climate change adaptation for the program may be more effective considering the wider coverage of all the youth of Bhutan through the national service.
- **Vocational Education Curriculum Development for Climate Mitigation and Adaptation:** The TVET curriculum currently focuses on the conventional skills of auto mechanics, carpentry, plumbing and electrification and doesn't contain any element of climate mitigation or adaptation. A revamp of the curriculum to include essential skills for retrofitting from the perspectives of climate change mitigation and adaptation will ensure creation of green jobs. These can include training in home insulation, climate resilient building methods and materials, installation and maintenance of small-scale renewable energy systems, etc. This will require additional training of TVET instructors and requirement of retrofit models to prepare the TVET students for green climate jobs.
- **Creating awareness for students and their parents to understand climate change adaptation as a career option:** Skills development of teachers and facilitators to create awareness among students and their parents on climate change adaptation through outreach and mini-research projects and create interest in climate change adaptation as a career option.

Key Strategies	Skills covered	Lead	Partner	Source of funding	Target	Time frame	Mode
Enhance Climate change education (academic institution)	T1.1, 2 and 4, T2, M2, P1.2 and 3	Academia, REC	NEC, GNHC, MoF	External	Students. Schools	Annually	Structured courses

CCA in Vocational Education	T1.4, T2, M2, P 1,2 & 3	DTE (MoLHR) and TVET institutes	NECS, GNHCS, MoF	External	Instructors, Teachers and Facilitators	Annually	Structured, Tailor Made courses
Develop CCA awareness (communities)	T1.1, 2 and 4, T2, M2, P1.2 and 3, P7, P9, P10	CSO, DLG, REC, RUB	NEC, GNHC, MoF	External	Communities, students and LGs	5 years	Tailor Made

Strategy 2: Develop institutional memory for climate change adaptation

A key issue that was raised during the SWOT analysis among all stakeholders was lack of institutional memory due to movement of personnel, inadequate process for knowledge transfer and understanding of climate change adaptation including use of climate data at the departmental level. The human resource availability and skill was also understood to be inadequate to efficiently and effectively respond to the training needs within different components of the government. As such, there is an urgent need to increase the level of awareness, knowledge and skills in various aspects of climate change at all levels. Further capacities in NCHM, Universities and research agencies are not fully utilized to help translate climate information and interventions. Partnership with these agencies including NCHM and RUB needs to be fostered so as to ensure an ongoing and sustained process of learning, and to continue to strengthen capacity building of agencies/users of climate data. Further it is important to establish collaborations/networks, south-south collaboration, south-north collaboration to facilitate sharing of experiences, knowledge and information transfer.. Some of the key actions under this strategy could be:

- A tailor-made annual training, conducted by RUB/ RIM, maybe arranged at three levels: basic, intermediate and advanced. The basic level courses could aim at building awareness, understanding and practical skills about climate change. The intermediate level takes the basic knowledge to a step where the participant is introduced to analysis, comparison of concepts and reasoning while the advanced level equips the participant with critical and independent thinking skills in climate change. This will allow for an institutional arrangement in place that assists in maintaining institutional memory. This strategy can be further developed by conducting programs as follows:
 - Strengthening bilateral and multilateral networks on exchange experience in conducting adaptation actions
 - Strengthening information access to obtain knowledge, technology and climate funding for adaptation policies
- Training role through RIM/RUB offered to both pre-service and in-service trainings for civil servants, private sector, corporations, Local Govt functionaries, CSOs etc. This may also assist in supporting ministries/departments to establish positions of climate change focal/nodal officers, that maybe specifically trained through these institutions
- Increased information exchange among institutions (Universities and Government/Private sector etc.) especially with reference to collaboration within Bhutan and internationally. Especially through dedicated climate change research centers.

Key Strategies	Skills covered	Lead	Partner	Source of funding	Target	Time frame	Mode
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Enhancing capacity to use analytical tools for Adaptation action	T1.1, T1.2, T1.3, T5, T7	RUB/RIM	External Expert Agency, NECS/ GNHCS / NCHM	External	TWG/ Focal points/ Private Sector/ CSOs/ central ministries	2 Years	Field visit/ Study trips/ Trainings. Intensive 2-week training
Strengthen climate information services	T2, T7, T6, T12, T11, M11. M3, M1, P2, P10.4	NCHM/ RUB	NECS, Sectors, Academia, DDM / External Agencies	Mostly External	NCHM, Users/ TWG/ Focal points/ Private Sector/ CSOs	3 years	Custom-made short-term training, Long term training, Seminars and workshops
Dedicated climate adaptation research centers	T1, P1, M2, M4	Research Institutions	NEC/ GNHC / External Agencies	MoF/ External	Research Institutions	Annual	Short-term training
Sensitize Management/ High level officials/ Parliamentarians on climate change/ NAP	(T1/1, T1.2, T1.3/M4) through a 1-2-day workshop	NEC	External / Lead agencies/ GNHC	Only funding required for food/ refreshments (presenters can be officials from lead agencies)	Parliamentarians, Management	1 year	Short term trainings

Strategy 3: Promote integration of awareness and utilization of indigenous/ traditional knowledge systems

Indigenous knowledge systems (IKS) are knowledge systems that have developed within various societies independent of, and before, the advent of the modern scientific knowledge system. These unique knowledge systems are important facets of the Bhutan's cultural diversity and provide a foundation for locally appropriate climate adaptation action. Presently, there is inadequate knowledge and underutilization of indigenous knowledge systems and technologies in Bhutan. Some of the key actions under this strategy could be as follows:

- Strengthen linkages with Government, academia and extension capacity of NGOs and CSOs operating in natural resource management/agriculture space;
- Develop and implement a public sensitization program on IKS across the community level;
- Develop a repository of all traditional and Indigenous knowledge systems; and
- Mainstream IKS in development projects.

Key Strategies	Skills covered	Lead	Partner	Source of funding	Target	Time frame	Mode
Promote integration of awareness and utilization of IKS into convention programmes	T1, T2, T7, T5, M11, M3, M1, P2, P10.4	NCHM/ RUB	NECS, Sectors, Academia, DDM / External Agencies	Mostly External	TWG/ Focal points/ Private Sector/ CSOs/ central ministries	5 Years	Develop and implement the public sensitization on IKS

Strategy 4: Develop financial mechanisms to sustain climate change skills development

There is no process for accessing longer-term and more sustainable budget support for capacity building in Bhutan. Sustainable funding of climate change activities is critical given the narrow economic base and the competing human resource demands from other development sectors.

There is a need to develop an adaptation finance strategy to access new financial sources. This may be supported by a tool to track allocated resources and train relevant stakeholders. The DLG in close cooperation with GNHCS, NECS will play the lead role in mobilizing resources and forging financing partnerships with international development partners for climate change skills development across Bhutan. This will require identification of a three focal points within NECS, GNHCS and DLG for working on the strategy for climate change financing. As such, the budgetary aspects of this could be included in their respective budgets.

Another activity under this strategy could be to mainstream financing of CC skills development activities in sectoral budgets. The GNHC, through the GECDP and 12th FYP, has initiated activities on mainstreaming climate change in planning processes at various ministries and departments. However, it has been noted that several development actions do not have climate change lens applied to it due to lack of expertise especially at the Gewog and Dzongkhag level.

Key Strategies	Skills covered	Lead	Partner	Source of funding	Target	Time frame	Mode
Strengthen climate change integration into Gewog/ Dzongkhag level budgets	T3, T5, M4, M7	DLG	MoF/ GNHC/ RUB	External	Dzongkhag Administration / Gewog Administration	3 years	Tailor made programs, short term trainings
Strengthen climate financing access, policy and engagement and coordination	T1, T4, T5, T6, M1, M3, M6, M7, M9, M10, M11, P9	GNHCS / NECS/ DLG	NCHM, MoFA, Sectors	External , Some level of Internal	NFPs, Agencies/ sectors/ CSOs/ Private sector	2 years	Tailor made trainings, Coordination meetings

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7. Annexures

7.1. List of Training programmes

1. Long Term Programmes

<p>a. Postgraduate</p> <ul style="list-style-type: none"> i. Climate Change Studies ii. Atmospheric Science iii. GIS and Remote Sensing iv. Environment Management v. Environment Science vi. Development Management vii. Development Studies viii. Social Science ix. Gender Studies 	<p>b. Diplomas</p> <ul style="list-style-type: none"> i. Climate Change Studies ii. Atmospheric Science iii. GIS and Remote Sensing iv. Environment Management v. Environment Science vi. Development Management vii. Development Studies viii. Social Science ix. Gender Studies
<p>c. Undergraduate</p> <ul style="list-style-type: none"> i. Climate Change Studies ii. Atmospheric Science iii. GIS and Remote Sensing iv. Environment Management v. Environment Science vi. Development Management vii. Development Studies viii. Social Science ix. Gender Studies 	

2. Short Term Programs

a. Certificate Programs

- i. Vulnerability Assessments
- ii. Climate/ Environment Impact Assessments
- iii. M&E
- iv. Development Management
- v. Project Management
- vi. Life Cycle Assessment
- vii. Environment Impact Assessment
- viii. MRV for GHG Mitigation
- ix. Climate Change Adaptation
- x. Strategic Planning and Management
- xi. Participatory Planning and Stakeholder Engagement
- xii. Conflict Management
- xiii. Dispute Resolution/ Arbitration
- xiv. Research Methods
- xv. Proposal writing for climate financing mechanisms

b. Study Visits

c. Exchange Programs

d. Internships

7.2. Institutional Questionnaire

Policy

- Is there a clear mandate for climate change adaptation in place?
- Is climate change adaptation integrated into institutional plans?
- Is climate change adaptation integrated into key sector strategies and plans?
- Is adaptation recognised within the budget allocation policy?
- Have the costs of climate change adaptation been assessed?

Organizational

- Are functioning mechanisms for climate change coordination in place?
- Do key sectors have climate change adaptation focal points in place?
- Is the role of NGOs, academia and private sector in adaptation planning clearly defined?
- Is climate change adaptation visibly integrated into budget management systems?
- Does a shared climate change financing framework for adaptation exist (public and private)?
- Is there a national climate change adaptation monitoring framework in place?
- Are there national training institutions in place with the capacity to design and deliver course on NAP?

Operational

- Are sectors able to apply analytical tools for adaptation to planning (V&A, scenarios, CBA, mainstreaming)?
- Are local authorities able to apply analytical tools for adaptation to planning (V&A, scenarios, CBA, mainstreaming)?
- Are data regularly being collected on weather and climatic parameters?
- Is seasonal forecasting information available to farmers on a recurrent basis?
- Is climate change adaptation integrated into national curriculums (primary and secondary)?

7.3. List of Technical Skills

T1. CLIMATE CHANGE SCIENCE AND POLICY

Definition: Climate change science and policy refers to the understanding of atmospheric processes that drive climate variability and change as well as the policy responses available to address climate change both at international and local levels. The skill is defined by five fundamental sub-skills:

T1.1. Climate change science: Knowledge and understanding of the atmospheric processes that drive climate variability and change and the role that the terrestrial biosphere and the oceans play in the global carbon cycle.

T1.2 Climate change impacts: Knowledge and understanding of the impacts of global warming on ecosystems and human activities, including biodiversity, global and regional inequality and vulnerabilities.

T1.3 Climate change mitigation: Knowledge of and experience in the efforts and technologies available to reduce or prevent the emission of greenhouse gases – limiting the magnitude of future warming.

T1.4 Climate change adaptation: Knowledge of and experience in the processes by which strategies to moderate, cope with and take advantage of the consequences of climate change are enhanced, developed, and implemented.

T1.5 Climate change policy: Knowledge of and experience in the range of climate change policy responses available, the relevant international environmental treaties being observed, and ability to analyze local and international policies in addressing climate change.

T2. CLIMATE CHANGE EDUCATION AND TRAINING

Definition: Climate Change Education and Training focuses on the education sector (primary, secondary and tertiary) as well as on adult-learning (training and skills developments) and is defined by three sub-skills:

T2.1 Climate change education, training and awareness: Knowledge of and experience in formalized education for climate change learning and awareness raising, particularly in the design, development and delivery of training events.

T2.2 Curriculum design and development: Knowledge of and experience in the design, development and delivery of national climate change education curriculums.

T2.3 Media communication and training: Knowledge of and experience in communicating with and training media sources for large scale awareness raising and learning on climate change.

T.3 CLIMATE CHANGE MAINSTREAMING AND IMPLEMENTATION

Definition: Climate change mainstreaming and implementation refers to integration and implementation of climate change into all development planning, both at strategic planning levels and in local development. The skill is defined by four sub-skills:

T3.1 Climate change mainstreaming: Knowledge and experience of integrating relevant environmental concerns into the decisions of institutions that drive national, local and sectoral development policy, rules, plans, investments and actions.

T3.2 Policy implementation: Knowledge and experience in implementing climate change activities that are directed at the achievement of objectives set forth in specific policy decisions.

T3.4 Sector-wide approaches: Knowledge and experience in the planning and management of climate change related activities, which identifies interrelated sector constraints and opportunities, and addresses constraints and opportunities that require coordinated action across actors and subsectors.

T3.4 National budget processes: Knowledge of the national budget processes and experience in integrating policies/actions plans/activities into the relevant budgeting processes to account for climate change adaptation related activities.

T4. LEGAL AND NEGOTIATION SKILLS

Definition: Legal and negotiation skills refer to the knowledge of regulatory tools which are explicit state interventions in policy, plan, project or programme (PPPP) processes, in pursuit of specific societal outcomes not achievable through normal market-based or incentive mechanisms. The skill is defined by four sub-skills:

T4.1 Legislation: Knowledge of and experience in the relevant national and international legal frameworks on climate change as well as relevant issues such as management of water, soil, agriculture and energy.

T4.2 Legal drafting and review: Knowledge of and experience in drafting, analyzing and reviewing national and international legal documents to express legal analysis, rights and duties.

T4.3 Climate change negotiations: Knowledge of and experience in negotiating in national and international climate negotiations, including formal and informal negotiation processes under the UNFCCC.

T4.4 Climate negotiation processes: Knowledge of and experience in understanding the rules of procedures, procedural motions, points of order, voting arrangement, roles, coalitions of interest and nomenclature of the UN and UNFCCC climate change negotiation

T5. CLIMATE CHANGE ECONOMICS AND FINANCE

Definition: Climate Change Economics concerns the economic aspects of climate change which can inform policies that governments might consider in response. A number of factors make this a difficult problem from both economic and political perspectives: it is a long-term, intergenerational problem; benefits and costs are distributed unequally both within and across countries; and scientific and public opinions may diverge. The skill is defined by four sub-skills:

T5.1 Environmental Economics: Knowledge of mainstream economics and environmental economics and the application of environmental economic principles and techniques in addressing environmental issues.

T5.2 Economics of climate change adaptation: Knowledge and experience in addressing issues around potential climate-related losses to economies and societies, the adaptation options for averting such losses, and the costs/investment that will be required to fund those options.

T5.3 Investment and impact appraisal for climate change adaptation options: Knowledge of investment and impact appraisal techniques (including cost-benefit analysis) and experience in applying investment and impact appraisals to climate change adaptation options in supporting the identification and prioritization of adaptation options.

T5.4 Climate change adaptation finance: Knowledge of key national and international sources of available climate adaptation finance and experience in sourcing and securing funding.

T6. CLIMATE RISK ASSESSMENTS

Definition: Climate Risk Assessments include an analysis of the expected impacts, risks and the adaptive capacity of a region or sector to the effects of climate change. The skill is defined by four sub-skills:

T6.1 Climate impact assessments: Knowledge and experience in undertaking climate impact assessments. Climate impact assessments provide an estimate of the effect of a change in climate on socioeconomic and environmental conditions, assuming no adaptation.

T6.2 Climate vulnerability assessments: Knowledge and experience in undertaking climate vulnerability assessments. Climate vulnerability assessments includes an assessment climate of impacts and autonomous adaptation options to help define climate risks and identify most vulnerable areas, sectors and social groups.

T6.3 Climate adaptation assessments: Knowledge and experience in undertaking climate adaptation assessments. Climate adaptation assessments examine adaptation responses including proactive and reactive options to anticipate the impacts of climate change and reduce vulnerability.

T6.4 Climate change proofing: Knowledge and experience in climate-proofing activities by analysing climate change risks to projects, stakeholders and results, and modifying project or implementation plans/strategies to reduce the identified risks.

T7. ICT, GIS AND DATA MANAGEMENT

Definition: Information and Communications Technology (ICT) refers to the role of unified communications and the integration of telecommunications, computers and necessary enterprise software that enable users to access, store, transmit and manipulate information. The skill is defined by three sub-skills:

T7.1 Information and communications technology (ICTs): Knowledge and experience in using ICTs for electronically capturing, processing, storing, and communicating climate-related data & information.

T7.2 Data management: Knowledge and experience in storing, managing, manipulating, and analysing data on ICTs for application in climate-related assessments and planning.

T7.3 GIS and Remote Sensing: Knowledge and experience in using GIS and Remote Sensing techniques and software for analysis and monitoring climate change with applications on climate change impacts and adaptation

T8. SUSTAINABLE FOREST MANAGEMENT

Definition: Sustainable Forest Management addresses forest degradation, deforestation and issues related to climate change while increasing direct benefits to people and the environment. The skill is defined by four sub-skills:

T8.1 Forest monitoring and assessments: Knowledge of forest monitoring and assessment techniques and experience in undertaking forest monitoring and assessments for improved and updated information on the extent and nature of national forest resources.

T8.2 Forest management planning and practices: Knowledge of and experience in forest management techniques, disaster risk management and adaptive forestry practices to help to reduce forest vulnerability, maintain forest productivity and biodiversity and foster the adaptive capacity of forest dependent communities.

T8.3 Forest policy and governance: Knowledge of the policy approaches to forests and climate change and experience in integrating climate change strategies and plans with national forest policy frameworks and other sectors that affect forests.

T8.4 Forest products, services and industry: Knowledge and experience of the types and sources of forest products and services, as well as the industry, the role it plays in climate adaptation and mitigation and the economic importance and viability.

T9. INTEGRATED WATER RESOURCES MANAGEMENT(IWRM)

Definition: Integrated Water Resources Management (IWRM) is defined as a process which promotes the coordinated development and management of water, land and related resources, comprising of four sub-skills:

T9.1 Water resource monitoring and assessments: Knowledge of water resource monitoring and assessment techniques, and experience in undertaking monitoring and assessments for improved and updated information on the extent and nature of national and trans boundary water resources.

T9.2 Water resource management planning and practices: Knowledge of and experience in water resource management, water related disaster risk management and adaptive practices to help to reduce vulnerability to climate change.

T9.3 Water resource policy and governance: Knowledge of policy approaches to water resources and climate change, trans boundary issues and experience in integrating climate change strategies and plans with regional and national water resource policy frameworks and other sectors.

T9.4 Water resource use, services and industry: Knowledge and experience of water resource use and services, as well as the industry, the role it plays in climate change and the economic importance and viability.

T10. SUSTAINABLE LAND MANAGEMENT(SLM)

Definition: Sustainable Land Management (SLM) is defined as the practices and technologies that aim to integrate the management of land, water, biodiversity, and other environmental resources to meet human needs while ensuring the long-term sustainability of ecosystem services and livelihoods. SLM is defined by four sub-skills:

T10.1 Participation: Knowledge of and experience in implementing SLM practices that are land-user-driven and participatory.

T10.2 Integration: Knowledge of and experience in implementing SLM practices that promote integrated use of natural resources at ecosystem and farming systems levels.

T10.3 Involvement: Knowledge of and experience in implementing SLM practices that promote multi-level and multi-stakeholder involvement.

T10.4 Targeting: Knowledge of and experience in implementing SLM practices that utilize targeted policy and institutional support, including the development of incentive mechanisms for SLM adoption and income generation at the local level.

T11. DISASTER RISK MANAGEMENT

Definition: Disaster Risk Management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses. The skill is defined by five sub-skills:

T11.1 Risk identification: Knowledge of risk assessment techniques and methods, and experience in undertaking risk assessments, risk mapping, information campaigns and public outreach activities.

T11.2 Risk reduction: Knowledge of and experience in disaster risk reduction practices through structural and non-structural measures including land use planning, policies and regulations, infrastructure etc.

T11.3 Risk preparedness: Knowledge of and experience in disaster preparedness techniques including civil protection systems, pre-position emergency response equipment, early warning systems, contingency planning etc.

T11.4 Disaster risk transfer: Knowledge and experience in assessing and reducing contingent liabilities, budget appropriation and execution and disaster financing instruments.

T11.5 Disaster rehabilitation and reconstruction: Knowledge and experience in resilient recovery and reconstruction policies and the design of institutional response mechanisms.

T12. CLIMATE CHANGE MODELLING AND SCENARIOS

Definition: Climate Change Modelling and Scenarios is defined as the process of projecting future GHG emissions and assessing future vulnerability to climate change according to specific scenarios. The skill is defined by four sub-skills:

T12.1 Climate data and information: Knowledge of climate data and information required for robust climate change modelling and scenario development, and experience in collecting, sourcing, storing and analysing climate data and information.

T12.2 Climate change modelling: Knowledge of the principles of quantitative climate modelling, including the strengths and weaknesses and experience in applying various climate modelling techniques such as running Global Climate Models (GCMs) and downscaling techniques for Regional Climate Models (RCMs).

T12.3 Climate change scenarios: Knowledge of the principles of climate scenario development, and experience in developing future climate scenarios for explicit use in investigating the potential impacts of anthropogenic climate change.

T12.4 Interpretation and application: Knowledge of and experience in understanding, assessing and interpreting outputs from current climate models and future scenarios for application in climate change adaptation planning and policy development.

7.4. List of Management Skills

Management skills are required to organize and maintain complex social organizations. Skills include leadership, supervisory and delegation, enabling an individual to oversee the process of mainstreaming climate change, while inspiring others. People with management skills can build an environment conducive to progress and change by creating space for concrete adaptation action

M1. STRATEGIC LEADERSHIP

Definition: Strategic Leadership is the ability to influence others to voluntarily make day-to-day decisions that enhance the long-term viability of the organization. Strategic leadership is characterized by three key sub-skills/indicators:

M1.1 Strategic Thinking: Knowledge of and experience in exhibiting a strong understanding of the complex relationship between the organization and its environment, and in conceptualizing the needs of the organization and how to achieve its goals.

M1.2 Strategic Action: Knowledge of and experience in taking decisive actions that are consistent with the strategic direction of the organization.

M1.3 Strategic Influencing: Knowledge of and experience in supporting the strategic direction of the organization by inviting others into the strategic process, forging relationships inside and outside the organization, and navigating the political landscape.

M2. SOCIAL RESPONSIBILITY

Definition: Social Responsibility is defined as an obligation to behave ethically and with sensitivity towards social, economic and environmental issues that contribute to sustainable and climate-resilient development by delivering economic, social and environmental benefits for all. Social responsibility is characterized by three key sub-skills/ indicators:

M2.1 Impacting society: Knowledge, active interest and participation in activities that benefit and strengthen the sustainable development of society.

M2.2 Impacting the economy: Knowledge, active interest and participation in activities that benefit and strengthen the economic development of society.

M2.3 Impacting the environment: Knowledge, active interest and participation in activities that address environmental issues and promote environmental sustainability and climate mitigation.

M3. VISIONING, INNOVATION AND INSPIRATION

Definition: Visioning, Innovation and Inspiration embraces key management skills and aspects of successful and transformational leadership. It is characterized by three key areas:

M3.1 Visioning: Knowledge of and experience in developing plans, goals and a vision for the future that addresses key issues, defines long term strategies and guides the organization into the future.

M3.2 Innovation: Knowledge of and experience in introducing innovative ideas and solutions into business practices and in challenging and facilitating the creative potential of peers.

M3.3 Inspiration: Knowledge of and experience in recognizing, valuing and utilizing individual and collective skills and strengths that support the creation of a culture of learning, continuous improvement and inspiration.

M4 ADVOCACY

Definition: Advocacy is defined as the active support of an idea or cause expressed through strategies and methods that influence the opinions and decisions of people and organizations. Advocacy is characterized by four sub-skills:

M4.1 Strategy development: Knowledge of and experience in defining, developing and implementing advocacy strategies that are timely, creating and engaging and based on robust data and information.

M4.2 Raising awareness: Knowledge of and experience in raising the organizational profile and organizational goals through the development of evidence-based communications.

M4.3 Forging relationships: Knowledge of and experience in building relationships and reaching consensus with key decision-makers, influencers and leaders.

M4.4 Implementation: Knowledge of and experience in sourcing and securing funding to support the achievement of the identified activities outlined in the advocacy strategy and implementing the advocacy strategies.

M5. TIME MANAGEMENT

Definition: Time Management is the process of organizing and planning how to divide one's time between specific activities. Time management is characterized by four sub-skills:

M5.1 Defining activities: Knowledge of and experience in defining concrete and specific activities as well their prioritization, both short and long-term.

M5.2 Achieving deadlines: Knowledge of and experience in setting and achieving specific deadlines for the identified activities.

M5.3 Monitoring: Knowledge and experience in monitoring activities to assess whether they are on track.

M5.4 Flexibility: Knowledge and experience in changing activities and deadlines based on priorities, demand or importance.

M6. RESULTS BASED MANAGEMENT (RBM)

Definition: Results-Based Management (RBM) is a management strategy which ensures that processes, products and services contribute to the achievement of desired results (outputs, outcomes and goals), with clearly defined accountability and requirements for monitoring and reporting. RBM is characterized by four sub-skills:

M6.1 RBM in Planning: Knowledge of and experience in RBM tools and practices (logic frameworks, results chains, risk mitigation strategies, results matrices) and the definition of clear and measurable objectives, selecting targets and indicators during the development of strategic frameworks, programmes and projects.

M6.2 RBM in Managing: Knowledge of and experience in effectively managing projects using RBM systems, developing flexibility in strategy and activities, incorporating team-based approaches and ensuring that results matrices are updated.

M6.3 RBM in Monitoring: Knowledge of and experience in RBM monitoring and reporting practices including regular and systematic assessments based on participation, reflection, feedback, data collection, analysis of actual performance (using indicators) and regular reporting.

M6.4 RBM in Evaluation: Knowledge of and experience participating in or undertaking evaluations focusing on expected and achieved results to determine the relevance, impact, effectiveness and sustainability of interventions.

M7. FINANCIAL MANAGEMENT

Definition: Financial Management is the efficient and effective management of funds to accomplish the objectives of the organization. Financial Management is characterized by four sub-skills:

M7.1 Financial consistency: Knowledge of financial policies, systems and accounting standards, as well as experience in applying these consistently over time.

M7.2 Financial accountability: Knowledge of and experience in financial accountability, particularly in describing how and why resources were used and what was achieved.

M7.3 Financial transparency: Knowledge of and experience in financial transparency standards and practices, in being open about finances and making information available to stakeholders.

M7.4 Financial integrity: Knowledge of and experience in financial integrity practices and in showing honesty and propriety in the management of financial resources.

M8. ORGANIZATIONAL CONFLICT MANAGEMENT

Definition: Organizational Conflict Management is the process of identifying and managing conflict situations in an organization. This is to limit the negative aspects of a conflict situation promoting positive perspectives with the aim of improving overall effectiveness and performance. Conflict management is characterized by four sub-skills:

M8.1 Conflict prevention: Knowledge of and experience in taking proactive steps to prevent the occurrence of crisis situations and unproductive conflicts.

M8.2 Conflict recognition: Knowledge of and experience in recognizing a conflict situation and the need for management intervention.

M8.3 Conflict reaction: Knowledge of and experience in addressing and managing conflict situations, maximizing productivity from the situation and neutralizing negativity.

M8.4 Conflict recovery: Knowledge of and experience in managing post conflict situations, addressing relationships and learning from the conflict episode.

M9. INTERNATIONAL DIPLOMACY

Definition: International Diplomacy is the interface between national interest debates and international cooperation. It is the process through which nation states – and increasingly non-governmental and sub-state actors – determine and work to deliver their international objectives. International Diplomacy is characterized by three sub-skills:

M9.1 Diplomatic understanding: Knowledge, experience and capacity to understand how climate change influences and impacts core national interests

M9.2 Diplomatic intelligence: Knowledge, experience and capacity to gather and analyse intelligence on the interests, constraints and capacities of other actors and how they perceive your own actions and positions.

M9.3 Diplomatic influence: Knowledge, experience and capacity to effectively promote national priorities, and to create and implement clear influencing strategies through political and diplomatic channels.

M10. PROJECTMANAGEMENT

Definition: Project Management is the application of knowledge, skills, tools and techniques to project activities in order to deliver on-time and on-budget project goals and objectives. It is closely linked to other management skills such as financial management, RBM and Reporting. Project Management is characterized by five sub-skills:

M10.1 Project conception: Knowledge of and experience in the conception and analysis of project ideas, determining whether the project benefits the organization, and whether it can be realistically completed, and results attained.

M10.2 Project planning: Knowledge of and experience in developing project plans, defining the scale and scope of projects and the work to be performed. This includes the prioritization of activities, the design of log frames, outlining budgets and schedules, and determining what resources are needed.

M10.3 Project launch: Knowledge of and experience in launching projects and in distributing project resources amongst teams and in defining roles and responsibilities.

M10.4 Project implementation and monitoring: Knowledge of and experience in implementing projects, identifying and analysing project status and progress against actual plans, as well as resource use and adjustment.

M10.5 Project close: Knowledge and experience in closing projects, including project evaluations highlighting successes and failures, and identifying lessons for future learning and application in new projects.

M11. HUMANRESOURCEMANAGEMENT

Definition: Human Resource Management (HRM) is a strategic and coherent approach to the management of the people working within an organization who individually and collectively contribute to the achievement of its objectives. HRM is characterized by three sub-skills:

M11.1 Human resource acquisition: Knowledge and experience in planning for, recruiting and identifying selected candidates for specific roles, integrating them into an organization following the organization's HR rules and regulations.

M11.2 Human resource development: Knowledge and experience in supporting employee personal development to improve employee performance by imparting knowledge, changing attitudes and improving skills.

M11.3 Human resource motivation: Knowledge and experience in motivating employees through activities (performance evaluations, compensation management, discipline) which induce and inspire people to increase performance and efficiency.

M12. REPORTING

Definition: Reporting is the process of producing reports as a means of assessing progress against previously identified goals or objectives, most commonly applied in results-based management (RBM), business reporting, financial reporting or sustainability reporting. Reporting is characterized by five sub-skills:

M12.1 Objectivity: Knowledge of and experience in reporting results that reflect both positive and negative aspects of performance to enable a reasonable performance assessment.

M12.2 Comparability: Knowledge of and experience in selecting, compiling and reporting information consistently and in a manner which enables performance analysis over time.

M12.3 Accuracy: Knowledge of and experience in reporting results that are accurate, reliable and detailed for assessing performance.

M12.4 Timeliness: Knowledge of and experience in reporting results on a regular basis so that information is timely and available for informed decision making.

M12.5 Clarity: Knowledge of and experience in reporting results that present information in a manner that is coherent and accessible.

7.5. List of Participatory Skills

P1. COORDINATION

Definition: Coordination is a structured arrangement of efforts towards the accomplishment of mutual objectives. Coordination is characterized by four key sub-skills:

P1.1 Identification: Knowledge and experience in identifying mutual objectives and stakeholders that would benefit from coordinated planning and implementation.

P1.2 Consultation: Knowledge and experience in leading and facilitating group discussions and consultations with identified stakeholders to improve information sharing and consensus building.

P1.3 Communication: Knowledge and experience in establishing systematic and effective communication between all stakeholders for improved coordination.

P1.4 Organization: Knowledge and experience in setting up mechanisms for the effective coordination of identified activities amongst stakeholders in order to achieve mutual objectives.

P2. COMMUNICATION

Definition: Communication can be defined as the imparting or exchange of information through speech, writing, or other channels. Effective communication is characterized by five sub-skills:

P2.1 Clarity: Knowledge and experience in conveying information that is clear and specific, making use of exact, appropriate and concrete words/methods so that information is delivered with confidence and is understood.

P2.2 Correctness: Knowledge and experience in conveying clear, factual and reliable information that is supported by facts.

P2.3 Completeness: Knowledge and experience in conveying all the information required for an audience to be adequately informed and take action.

P2.4 Conciseness: Knowledge and experience in conveying information concisely and within context, allowing for the message to be delivered quickly and succinctly without forgoing clarity or completeness.

P2.5 Responsiveness: Knowledge and experience in conveying information to different audiences that respond to specific needs and information gaps.

P3. TEAM BUILDING

Definition: Team Building can be defined as an action or process which enables a group of people to work together effectively as a team, especially by means of activities and events designed to increase motivation and promote cooperation. Team building is characterized by four sub-skills:

P3.1 Goal Setting: Knowledge of and experience in setting objectives and the development of individual and team goals.

P3.2 Interpersonal relations: Knowledge of and experience in supporting and developing interpersonal relationships through skills such as mutual supportiveness, communication, active listening and empathy to develop trust and confidence within the team.

P3.3 Problem solving: Knowledge of and experience in identifying problems within a team environment and defining and implementing actions to resolve the problem.

P3.4 Role clarification: Knowledge of and experience in emphasizing communication among team members regarding their respective roles and responsibilities within the team in order to promote transparency and understanding.

P4. PUBLIC SPEAKING

Definition: Public Speaking involves the preparation and delivery of ideas to a group of people who listen without significant interruption. Public speaking is characterized by four sub-skills:

P4.1 Ideas: Knowledge of and experience in developing and refining ideas or arguments for presentation to an audience or group.

P4.2 Arrangement: Knowledge of and experience in refining ideas through structured and coherent arguments.

P4.3 Style: Knowledge of and experience in identifying and using varied presentation techniques, and effectively using voice and body language to best present an idea and to maximize impact on the audience.

P4.4 Memory: Knowledge of and experience in learning and memorizing information through speaking points/speeches while maintaining a natural interaction with the audience.

P5. ACTIVE LISTENING

Definition: Active Listening is the active process in which a conscious decision is made by a person to listen to and understand the message of a speaker. Active listening is characterized by five sub-skills:

P5.1 Attentiveness: Knowledge of and experience in giving undivided attention and acknowledging messages of speakers.

P5.2 Body Language: Knowledge of and experience in expressing and interpreting body language, non-verbal or emotional signs to convey attention.

P5.3 Understanding: Knowledge of and experience in understanding the message being delivered by reflecting on what is being said and by questioning the information received.

P5.4 Deferred Judgment: Knowledge of and experience in allowing speakers to finish key points during an interaction, without interruption.

P5.5 Positivity: Knowledge of and experience in showing respect towards a speaker and expressing positively that the message was well understood and clear.

P6. RELATIONSHIP BUILDING

Definition: Relationship Building is the process of developing mutual affiliation or connection between individuals or groups for the achievement of common goals. Relationship building is characterized by five sub-skills:

P6.1 Respect: Knowledge of and experience in acting in a respectful manner towards others, bearing in mind feelings, beliefs, and values.

P6.2 Trust: Knowledge of and experience in being reliable and dependable thereby gaining trust and forging/strengthening relationships.

P6.3 Mindfulness: Knowledge of and experience in taking responsibility for words spoken and actions taken, bearing in mind the impact that these may have on others.

P6.4 Diversity: Knowledge of and experience in welcoming diversity and accepting people's beliefs and opinions.

P6.5 Change: Knowledge of and experience in effectively communicating issues and creating or changing work systems and processes to support others.

P7. CROSS-CULTURAL UNDERSTANDING

Definition: Cross-Cultural Understanding conveys the recognition of individual cultural differences, gaining the appreciation, respect and knowledge of other cultures. Cross-cultural understanding is characterized by four sub-skills:

P7.1 Cultural awareness: Knowledge of and experience in being attentive to and recognizing or acknowledging your own preconceived notions of other cultures and beliefs.

P7.2 Cultural acceptance: Knowledge of and experience in realizing and accepting that cultural differences exist.

P7.3 Cultural knowledge: Knowledge of and experience in developing cultural knowledge and understanding.

P7.4 Cultural adaptability: Knowledge of and experience in successfully adapting to the cultural context of the situation.

P8. CONSENSUS BUILDING

Definition: Consensus Building is an approach to group decision making that focuses on problem solving to satisfy the interests and concerns of all group members. Consensus building is characterized by four sub-skills:

P8.1 Facilitation: Knowledge of and experience in successfully facilitating or mediating group discussions that allow for stakeholders to adequately express concerns, identify goals and gain support and agreement.

P8.2 Commitment: Knowledge of and experience in showing commitment to group consensus by following through on agreed and adopted activities.

P8.3 Patience: Knowledge of and experience in showing patience by allowing groups to build sufficient capacity to operate under the new consensus while recognizing the need for give and take.

P8.4 Planning: Knowledge and experience in mapping and defining clear guidelines on how to plan for and build consensus using formal and informal structures to build upward support for own ideas.

P9. PARTICIPATORY PLANNING AND DECISION-MAKING

Definition: Participatory Planning and Decision Making is a process that convenes a broad base of key stakeholders to generate a diagnosis of the existing situation and develop appropriate strategies to solve jointly identified problems. Participatory planning and decision making is characterized by four sub-skills

P9.1 Identification: Knowledge of and experience in identifying interested stakeholder groups and their needs, priorities and concerns, as well as establishing group targets and goals.

P9.2 Assessment: Knowledge of and experience in assessing identified needs and group goals for the prioritization and identification of available resources.

P9.3 Planning: Knowledge of and experience in developing action plans and project proposals that integrate the agreed needs, priorities and concerns of all interested stakeholder groups well in advance, as well as the availability of joint organizational resources.

P9.4 Approval: Knowledge of and experience in reviewing and managing the approval of proposals through agreed approval authorities/groups

P10. PARTICIPATORY LEARNING AND ACTION (PLA)

Definition: Participatory Learning and Action (PLA) is an approach for learning about and engaging with communities. PLA can be used in identifying needs, planning, monitoring or evaluating community-based adaptation projects and is characterized by four sub-skills:

P10.1 Behavioural awareness: Knowledge of and experience as a PLA trainer/facilitator ensuring that personal biases have less influence on the outcomes of the PLA activity.

P10.2 Group learning: Knowledge of and experience in group learning processes that are iterative, and that change according to evolving perceptions.

P10.3 Adaptive methods: Knowledge of and experience in implementing PLA approaches, methods and tools that are designed to meet location situations and which allow flexibility to adapt to a variety of contexts.

P10.4 Information sharing: Knowledge of and experience in sharing information throughout the PLA activity to elicit learning and debate, and to influence individual and group perceptions and actions.

P11. NETWORKING

Definition: Networking is the interaction between individuals or groups to exchange information and develop professional or social contacts. It is an effective tool for identifying and building mutual working relationships or partnerships. Networking is characterized by four sub-skills:

P11.1 Strategy: Knowledge of and experience in identifying personal or organizational goals and developing a networking strategy to support the identification of key individuals, groups or organizations that culminate in mutually beneficial relationships.

P11.2 Credibility: Knowledge of and experience in developing a good rapport and credibility with the identified network through trust and integrity.

P11.3 Interest: Knowledge of and experience in showing interest and engaging in the activities of the network or organizations.

P11.4 Contact: Knowledge of and experience in maintaining contact with members of the network, sharing information and keeping track of developments, issues, challenges or achievements.

P12. GENDER MAINSTREAMING

Definition: Gender Mainstreaming is a strategy that renders both women's and men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes, to work towards the achievement of gender equality. Gender Mainstreaming is characterized by five sub-skills:

P12.1 Gender analysis: Knowledge of and experience in using analytical tools and methods to identify the relationships between men and women, their access to resources, their activities, the constraints that they face, and how they are affected by public policy.

P12.2 Gender planning: Knowledge of and experience in policy or programme planning that identifies gender as a key variable and integrates the gender dimension into policies or actions.

P12.3 Gender-specific actions: Knowledge of and experience in implementing gender-specific actions and capacity building initiatives.

P12.4 Gender-sensitive Monitoring and Evaluation: Knowledge of and experience in implementing gender-sensitive monitoring and evaluation techniques that account for both qualitative and quantitative data.

P12.5 Knowledge sharing: Knowledge of and experience in sharing relevant gender-related information and results.