



Institutional Capacity Gaps

and Needs Assessment and Capacity Building Action Plan for NDC
Implementation of Urban Development & Construction and Mines &
Petroleum Sectors



Final Report

JUNE 18, 2021

ADDIS ABABA, ETHIOPIA



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ACRONYMS AND ABBREVIATIONS

BoFED/BoF	Bureau of Finance and Economic Development/ Bureau of Finance
BoT/BoST	Bureau of Technology/Bureau of Science and Technology
BoUD/BoUDC	Bureau of Urban Development/Bureau of Urban Development & Construction
BoWI/BoWIE	Bureau of Water and Irrigation/Bureau of Water, Irrigation and Energy
CP/CoP	Conference of Parties
CRGE	Climate Resilient Green Economy
CSA	Central Statistical Agency
DP-10	Development Plan (ten-year)
ECSC	Ethiopia Civil Service Commission
EFCCC	Environment, Forest and Climate Change Commission
EPE	Environmental Protection of Ethiopia
FSCE	Federal Supreme Court of Ethiopia
EU	European Union
FGD	Focus Group Discussion
GCF	Global Climate Finance
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIZ	German International Technical Cooperation
GTP II	Growth and Transformation Plan (II)
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
KII	Key Informant Interview
LS	Lump Sum
MoANR	Ministry of Agriculture and Natural Resource
MDG	Millennium Development Goal
MoF	Ministry of Finance
MoI/MoST	Ministry of Innovation/Ministry of Science and Technology
MoLFD	Ministry of Livestock and Fisheries Development
MoMP	Ministry of Mines & Petroleum
MoT	Ministry of Trade
MoUDC	Ministry of Urban Development & Construction
MoWIE	Ministry of Water, Irrigation and Energy

MRV	Measuring, Reporting and Verification
MtCO _{2e}	Metric Tons of Carbon Dioxide Equivalent
NAMA-COMPOST	Nationally Appropriate Mitigation Action-to- Create Opportunities for Municipalities Production and Operation from Solid Waste Transformation
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NDRMC	National Disaster and Risk Management Commission
NGOs	Non-Governmental Organizations
NME	National Monitory and Evaluation
NMSA	National Meteorological Service Agency
NPC	National Planning Commission
OFAGE	Office of the Federal Auditor General of Ethiopia
PDC	Planning Development Commission
PESTEL	Political, Economy, Socio-Culture, Technology, Environment and, Legal
PMO	Prime Minister Office
REFCC	Regional Environment Forest and Climate Change
SDGs	Sustainable Development Goals
SNNPR	Southern Nations Nationalities and People`s Region
SNV	Netherlands Development Programme
SWOT	Strengths, Weaknesses, Opportunities and, Threats
ULGDP	Urban Local Government Development Project
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank
WEFCC	Woreda Environment Forest and Climate Change
WoFED	Woreda Finance and Economic Development
WoT	Woreda Office of Trade
WoWI	Woreda Office of Water and Irrigation
WRI	World Resources Institute

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ACKNOWLEDGEMENT

This report was prepared by the individual consultant, Yilikal Addisu Yayeh, in collaboration with UNDP and EFCCC. The institutional capacity gap assessment and institutional capacity development action plan was made possible with the involvement and support of Urban Development & Construction and Mines & Petroleum sectors and various individuals and institutions by providing valuable data and information.

Unconditional thanks goes to Ababu Anage and Bemnet Teshome for facilitating the assessment by providing the required data and information, coordinating stakeholder engagement, and organizing data and final report validation workshops and feedback on the report. Tigist Alemayehu and Meseret Fufa are also appreciated for their lead role in identifying the key institutional capacity gaps and coordinating the data collection process through KII, FGD and expert survey in their respective sectors.

Special gratitude to staff members of the Urban Development & Construction and Mines & Petroleum sectors for their participation in the assessment by filling the questioner and providing relevant information during focus group discussions. Similarly EFCCC staffs are appreciated for their participation during data collection and feedback on the report.

Special thanks is given to Nigussu Lema, Mensur Dessie, Mohammed Andoshe, Benti Firidissa, Tirihas Mebrhatu, Habtamu Adam, Mariana Fassil, Yosef Melka, Micheal Hordofa, Dessalegn Tebratu, Abdeta Debela, Abas Mohammed, Dawit Mulatu, Gessesse Dessie, Morbin Danieli, Girma Workie, Tihitina Taddesse, Ethiopia Kassaye, Adugna Nemera, Birhanu Sisay, Eyob Amerga, Henok Atinafu, Dirsha Dejene, Yayesh Mihret and others who had participated on the validation workshop and who had reviewed the report for their invaluable contribution for the assessment.

Southern Nations Nationalities and Peoples Regional State sector Bureaus, higher officials and experts are appreciated for their positive response on the survey conducted in Hawassa city. Many thanks goes to Adama City Administration, Urban Development & Construction Greenery and Solid Waste Division and NAMA COMPOST project and Dangote Cement Factory for their support during the field visit.

EXECUTIVE SUMMARY

The consultancy work was initiated to undertake institutional capacity gap assessment and preparation of institutional capacity building action plans for Urban Development & Construction and Mines & Petroleum sectors. The study aimed to address critical institutional capacity gaps of the two sectors and develop institutional capacity building action plan for effective implementation of the updated NDC and the 10 year development plan of the two target sectors.

Appropriate methods and approaches were used to conduct the institutional capacity gap assessment: in-depth review on the policy, strategy, previous investigation reports & documents, legal and institutional frameworks tailored to CRGE/NDC implementation; situational analysis of the sectors; identification and prioritization of key institutional capacity gaps and identify capacity training needs. In order to prepare institutional capacity development action plan for the two target sectors, activities and key indicators to measure their progress were identified. The UNDP institutional capacity gap assessment methodology and logical framework approaches were used as springboards throughout the study.

The required data and information for the assessment was obtained from document review, expert survey, key informant interview and focus group discussion. During the data collection the two target sectors and regional bureaus had participated. In addition valuable data and information was obtained from EFCCC, UNDP, other development partners and various stakeholders.

The collected primary and secondary data were verified by the two target sectors and participants of the data validation workshop. The data analysis was conducted using SPSS Ver. 26 and Excel Spreadsheet. Both PESTEL and SWOT Analytical frameworks were used for situational analysis of the Urban Development & Construction and Mines & Petroleum sectors.

The key institutional capacity gaps were identified and prioritized based on the analysis results. The key capacity gaps that need to be addressed are: Implementation Capacity (human resources related including knowledge and skill gaps) building needs; Finance Limitation; Lack of sectoral GHG emission data and gap on Measuring, Reporting and Verification (MRV); Limitation to access available climate data; Lack of Information Communication and Performance Auditing System; Technology gap for Climate Change Adaptation and Mitigation; Gaps in Legal

Framework and Legislation; and Organizational Structure and Sectoral Arrangement (Unclear Mandate and Role).

In addition previous institutional capacity gap assessment reports indicated that the main challenges in the Urban Development & Construction sector are solid waste management, inadequate technical expertise in: landfill management and methane capturing, Technology transfer on hierarchy of integrated waste management, MRV and activity data generation, and Capacity gaps related to MRV. For the Mines & Petroleum sector the main challenges are lack of uniform structures from the ministry to its regional counterparts, budget limitation, low level of attention given for CRGE by the top management, lack of adequately trained manpower, lack of baseline GHG emission data, lack of experience in best practices in climate actions, reshuffling of higher officials and lack of continuous capacity building.

Based on the assessment results, the implementation capacity of the Urban Development & Construction sector is generally moderate. And, the implementation capacity of the Mines & Petroleum sector is low to moderate. In order to identify the institutional capacity gaps of the target sectors, previously conducted capacity gap assessment results at national level were reviewed and persistent challenges, constraints and needs were included to make the assessment full-fledged.

In order to fill the key gaps and address the main challenges and constraints of the two target sectors, the institutional capacity development action plans were prepared by identifying key indicators, activities and desired outputs and outcomes. Accordingly to fill the gaps and address the challenges at individual, system and organizational levels the major actions are conducting need-based short and long term trainings, install/upgrade information communication and performance auditing system, and review the existing organizational structure to include MRV unit for the two sectors and establish CRGE unit for Mines & Petroleum sector from federal to regional and woreda levels in line with the CRGE facility.

For the way forward, it is recommended that the two target sectors should intervene to address the key institutional capacity gaps, challenges and constraints that are manifested at individual, system and organizational levels. To this end, the two sectors need to strengthen their resource mobilization efforts in order to access additional funds to alleviate their financial shortage. Conducting systematic and need-based capacity building trainings will also enhance the knowledge, skill and competency of their staffs for effective implementation. The existing

organizational structure better be reviewed to include MRV unit in both sectors and, to enable establishment of CRGE unit in the Mines & Petroleum sector. Information communication and performance auditing systems should be established/strengthened for easy and safe information exchange and to enhance the overall performance of the target sectors. More effort is required to identify and utilize appropriate technology for adaptation and mitigation of climate change risks. In addition strong policy and legal support is also crucial to strengthen the two target sectors, the Mines & Petroleum sector needs special attention in this regard. Furthermore the two target sectors need to strengthen their monitoring and evaluation system for effective implementation of the updated NDC and DP-10.

Finally, the two sectors should be supported to address the identified institutional capacity gaps by implementing the designed capacity building action plans. The overall implementation of the capacity development action plans should be fully owned by the target sectors so that effective implementation of the updated NDC and sectoral DP-10 is achieved by 2030.

1. INTRODUCTION AND BACKGROUND

1.1. Introduction

This consultancy service was initiated to undertake institutional capacity gap assessment and prepare institutional capacity development action plan for Urban Development & Construction and Mines & Petroleum sectors. The main focus of the assessment aimed at integrating current and future climate change adaptation and mitigation measures in their 10 year development plan to ensure that development is climate proofed as part of the updated NDC implementation.

The purpose of the institutional capacity gap assessment was to identify key points considered to support the capacity development process in order to effectively implement the updated NDC and the 10 year Development Plan in the two target sectors.

An institutional capacity gap assessment is an analysis of desired capacities against existing capacities which generate an understanding of capacity assets and needs that can serve as input for formulating a capacity development response that addresses those capacities that could be strengthened and optimizes existing capacities that are already strong and well founded. It can also set the baseline for continuous monitoring and evaluation of progress against relevant indicators and help create a solid foundation for long-term planning, implementation and sustainable results¹ (UNDP 2008).

Apparently, UNDP suggests the need to follow a-three-step process to conduct a capacity gap assessment. The activities in each step aim at deepening engagement of national partners and promoting dialogue among key stakeholders during capacity gap assessment and preparation of capacity development action plan. Engaged stakeholders and a clear design are key to a successful capacity assessment. The design is driven by three guiding questions: 1) ‘Capacity for why?’ 2) ‘Capacity for whom?’ and 3) ‘Capacity for what?’²

Based on the UNDP capacity gap assessment framework, the necessary data and information were collected, analyzed and results are presented for each sector.

¹ UNDP Capacity Assessment Methodology, User’s Guide, Capacity Development Group Bureau for Development Policy November, 2008

² The phrasing of the questions in this way has proved to be appealing and intuitive to people working on capacity development.

1.2. Background and Rationale

In 2011, well before countries undertook obligations to reduce greenhouse gas (GHG) emissions and enhance climate resilience under the Paris Agreement, Ethiopia launched the Climate Resilient Green Economy Strategy (CRGE) which is an ambitious national blueprint towards reducing its emissions by 64% from a business-as-usual trajectory by 2030. The CRGE strategy anchors on key economic development sectors (Agriculture, Forest, Industry, Transport, Energy, Green City, Mines & Petroleum etc.). The Ethiopian updated NDC is fully anchored on the CRGE and DP-10 targets and reaffirms Ethiopia's continued commitment to strengthening the resilience of the country's economic sectors by enhancing sectoral contributions to NDCs for wider environment and community benefits. The NDC³ has specific aims to limit its net greenhouse gas (GHG) emissions in 2030 to 145 Mt CO₂e or lower and also to undertake adaptation initiatives to reduce the vulnerability of its population, environment and economy to the adverse effects of climate change (FDRE 2015).

The Urban Development & Construction and Mines & Petroleum sectors are therefore key to meet the targets of the updated NDCs and CRGE. The roles and relevant projects of these economic sectors are highlighted below.

Urban Development & Construction: The Urban Development & Construction sector which includes urban planning and green city development (city parks, urban agriculture, and urban forestry) is considered as one of the four pillars in the CRGE strategy and is key for meeting the targets of the updated NDC. The Urban Development & Construction sector alone contribute for about 3% (5 MT CO₂e) of the national GHG emission (i.e. with about 3 MT CO₂e from the generation and disposal of solid and liquid waste and 2 MT CO₂e from the use of private, off-grid power generators such as diesel units, and kerosene lamps)⁴ (FDRE 2020). The sector has several FLAGSHIP projects/programs such as (SHEGER PROJECT) City Park Development, Green City Development, Solid Waste Recycling, Urban Afforestation/Reforestation, Waste and Landfills Management, Privately Owned Real Estate Development, Condominiums, Urban Local

³ Federal Democratic Republic of Ethiopia, 2015. Nationally Determined Contribution (INDC) of the Federal Democratic Republic of Ethiopia, Addis Ababa: Federal Democratic Republic of Ethiopia.

⁴ Sectoral Overview Appendices, CRGE Strategy (2011-2019). Implementation progress assessment report. 2020.

Government Development Project etc., which enable the sector to discharge its responsibility in meeting the targets of Ethiopia's updated NDC.

The Urban Development & Construction sector implements several FLAGSHIP projects/programs that are vital for mitigation options such as accelerating the transition to high-efficiency light bulbs for residential, commercial, and institutional buildings; adopting and enhancing landfill gas management technologies (e.g., flaring) to reduce emissions from solid waste and the NAMA COMPOST project (GEF project) which is being implemented by the Ministry.

Green cities and buildings objectives on Adaptation are Focus on mitigation, Greening public parks, Urban green infrastructure, Solid waste management and Housing. Based on the assessment report the urban sector had limited progress on Adaptation in 2011-2019 CRGE implementation period to meet its objectives. The majority of activities in the Green Building and Cities area was centered on mitigation. Nationally, the Second Urban Local Government Development Programme included aspects of greening and public parks as adaptation measures. This is further bolstered by the URBAN Greenery Infrastructure Development Program, which promotes green infrastructure and sustainable urbanization. Other key initiatives in this area include the 2014 Municipal Solid Waste Strategy and the Housing Development programme, which have numerous adaptation co-benefits. Areas of future focus could be increasing urban areas with land use plans that integrate adaptation and expanding urban agriculture. Within the Green Cities and Buildings component of the CRGE's monitoring framework, the adaption indicators relate to i) environmental and social impact assessments (ESIA); and ii) development of green infrastructure (FDRE 2020). Adaption

A major gap in the CRGE strategy was failure to address adaptation needs in sectors. This includes the Urban Development & Construction sector. Fortunately, this oversight has been rectified through the NAP. Adaptation option number 10 in the NAP underscores "Increasing Resilience of Urban Systems." Under the NAP, the Urban Development & Construction sector is both a target-area for enhanced adaptive capacity, as well as a driver/source of stronger economy-wide adaptive capacity (through more reliable and resource-efficient infrastructure and services etc.). The NAP suggests that for the Urban Development & Construction sector, adaptive capacity should be strengthened by improving housing conditions; expanding urban greenery; and enhancing urban

infrastructure. It also emphasizes on more integrated urban land use planning and management, and the promotion of efficient household/urban waste management systems (FDRE 2020).

Mines & Petroleum: Mining has long history in Ethiopia. The production of gold in traditional way is as old as 3000 years. Currently Ethiopia is exporting minerals such as gold, Tantalum, Gemstones and Dimension Stones. The Mineral sector is the second foreign currency earner next to coffee in the country. This sector has also created job opportunity; the artisanal Mining sector has created a job for nearly 1 million citizens. There are three public institutions at national level with different mandates: Ministry of Mines, Petroleum & Natural Gas, Geological Survey of Ethiopia, and Regional States Mines, Water and Energy Bureaus.

Previously, GHG emission from the Mines & Petroleum sector was covered under the industry sector. The Mines & Petroleum sector is important source for industrial development. Recognizing the urgency and importance of the Mines & Petroleum sector in supporting and speeding up the industrial development, strong emphasis needs to be given towards reducing climate change and human induced disaster risks in mining areas (such as landslides, floods, environmental and social impacts, landscape changes, pollutions etc. in mining and rehabilitation of large scale exploration and excavation mining area and resettlement of population on this area to response its adverse effect of environment and communities). The entity responsible for reducing adverse impacts of mining activities and promoting opportunities arise from GHG emission reduction in the Mines & Petroleum sector is the Ministry of Mines & Petroleum.

Recently the government of Ethiopia has launched a 10-Years Development Plan (DP-10, i.e. 2020/21 – 2030/31), which is aligned with NDC and aims at building prosperous community by 2030 and beyond. Institutional Capacity Building specific for the updated NDCs need to be anchored on meeting the targets of DP-10. Towards meeting the targeted objectives of Ethiopia's updated NDCs as well as DP-10, development sectors need to integrate current and future climate change adaptation and mitigation measures in their respective development plan as part of the updated NDC implementation to ensure that development in Urban Development & Construction and Mines & Petroleum settings is "climate proofed". In this regard, the Urban Development & Construction and Mines & Petroleum sectors, which are currently key to CRGE implementation, need to be strengthened to overcome the capacity constraints at system, institutional and individual

levels for achieving the targets of the updated NDCs set by the Ethiopian government to make sure the current and future economic development is sustainably climate proofed and resilient.

In order to support the implementation of the updated NDC of Ethiopia, UNDP developed ‘Deepening the efforts to implement NDC in Ethiopia (DEEP DIVE)’. One of the objectives of the project is to assess progress and to identify technical and capacity challenges in implementing the updated NDC.

The DEEP DIVE project document clearly outlines that, though the country has prepared its CRGE/NDC and mainstreamed it in the Growth & Transformation Plan II (GTP II), gaps and challenges have been observed in its planning, implementation, and Measuring, Reporting & Verification (MRV). These include poor coordination and awareness on NDC, weak or incomplete MRV Systems, lack of access to finance, poor private sector engagement in NDC, lack of regulatory and incentive mechanisms that promote sustainable business models or perceived high risks of investment from the private sector for public projects, poor institutional coordination for NDC implementation and inadequate institutional capacities to implement NDC⁵ (UNDP 2019).

1.3. General Objective

The objective of this consultancy is to Undertake Institutional Capacity Need assessment and Plan Institutional Capacity Building to Build the capacity of two Development Sectors (Urban Development & Construction and Mines & Petroleum) to integrate current and future climate change adaptation and mitigation measures in their respective development plan to ensure that development is “climate proofed” as part of the updated Nationally Determined Contributions (updated NDCs) implementation.

1.4. Scope of the Work

During the assessment the consultant worked with the UNDP, EFCCC, MoF, Plan and Development Commission, Urban Development & Construction and Mines & Petroleum sectors and other designated groups and people at national and sub-national and local levels to gather data and information designed to inform and support the process.

⁵ Deepening Efforts to Implement NDC in Ethiopia, July, 2019, UNDP

The assignment was undertaken within the Urban Development & Construction and Mines & Petroleum sectors and their agencies and stakeholders. In order to effectively conduct institutional capacity gap & need assessment and to plan institutional capacity building that will enable the Urban Development & Construction and Mines & Petroleum sectors and their agencies to integrate current and future climate change adaptation and mitigation measures in their DP-10 action plans as part of the updated NDC implementation and ensure that outcomes of updated NDCs interventions and DP-10 actions are sustainably climate proofed and resilient.

Urban Development & Construction Sector:

- ✓ Develop appropriate methodologies for conducting capacity gaps and training needs assessment for implementation of the updated NDC;
- ✓ Conduct in depth review and analyses of project documents, policies, strategies dedicated to CRGE/NDC and these include but not limited to: Ethiopia's updated NDC –Urban Development & Construction DP: 2020 – 2030; CRGE, NDC, CRGE Strategy (2011-2019) implementation progress report on the Urban Development & Construction sector, and FLAGSHIP projects/programs namely: Landfill gas management; Re-use and Recycling of solid waste; Urban greenery and integrated infrastructure planning; Implementation of Energy Efficient Buildings;
- ✓ Provide situational analyses of the Urban Development & Construction sector in view of achieving the targets of the updated NDC and CRGE- Fast track projects in Urban settings and green city;
- ✓ Undertake analyses on the progress of capacity building through 2011-2019 CRGE project initiatives as compared to the capacity status during pre-CRGE in terms of organizational level, enabling level and individual level capacity in the Urban Development & Construction sector; and indicate the existing and the required capacity for the updated NDC-Urban Development & Construction implementation;
- ✓ Produce alignment of the updated NDC-Urban Development & Construction actions with DP-10 and determined level of the contribution of the updated NDC to DP-10;
- ✓ Identify capacity gaps continued existing through 2011-2019 CRGE implementation period and draw actionable recommendations to bridge the gaps for meeting targets set for the updated NDC and DP-10 in the areas of Urban Development & Construction sector;

- ✓ Prepare Institutional Capacity Development Plan for the updated NDCs implementation and for supporting DP-10 implementation in each of the Urban Development & Construction subsectors; and
- ✓ Identify key challenges, good practices (knowledge, technology, policy etc.) for enhancing carbon trading benefits from mitigation projects of Urban Development & Construction sector.

Mines & Petroleum Sector:

- ✓ Identify technical and institutional capacity gaps and good practices in estimating the GHG emissions reduction resulting from yearly annual targets as well as the final 2030 target;
- ✓ Conduct in depth review and analyses of project documents, policies, strategies dedicated to CRGE/NDC implementation in the Mines & Petroleum sector; and these include but not limited to: Ethiopia's Mines & Petroleum DP: 2020 – 2030; updated NDC, CRGE Strategy (2011-2019) and NAP implementation progress report, and FLAGSHIP projects/programs with regards to Mines & Petroleum; Provide situational analyses of the Mines & Petroleum sector in view of achieving the targets of CRGE- fast track initiatives;
- ✓ Undertake analyses on the progress of capacity building through 2011-2019 CRGE fast track project initiatives as compared to the capacity status during pre-CRGE in terms of organizational level, enabling level and individual level capacity in the Mines & Petroleum sector and also indicate currently existing and the required capacity for the updated NDC targets in the Mines & Petroleum sector;
- ✓ Produce alignment of the updated NDC-Mines & Petroleum actions with DP-10 and determine level of the contribution of the updated NDC to DP-10;
- ✓ Identify capacity gaps continued existing through 2011-2019 CRGE implementation period and draw actionable recommendations/ prepare capacity development action plan to bridge the gaps for meeting targets set for the updated NDC and DP-10;
- ✓ Identify constraints/challenges of GHG-MRV in the Mines & Petroleum sector;
- ✓ Document projects with good practices in providing economic, social and environmental benefits through enhancing environmental management system/auditing, climate finance etc., in the Mines & Petroleum sector; and

- ✓ Prepare Institutional Capacity Development Plan for the updated NDCs- Mines & Petroleum implementation and for supporting DP-10 implementation in each of the Mines & Petroleum subsectors.

1.5. Report Organization

The report is organized in six sections. Section one introduces the background of the project and rationales, objective of the project, scope of the institutional capacity gap assessment study to prepare capacity development action plan.

Section two examines the existing policy, legal and institutional framework and highlights the gaps for effective implementation of the updated NDC in Urban Development & Construction and Mines & Petroleum sectors. It further addresses in depth review and analyses of project documents, policies, strategies dedicated to CRGE/NDC for the Urban Development & Construction and Mines & Petroleum sectors. Project documents made available in policies and strategies dedicated to CRGE/NDC implementation in the two sectors are in depth reviewed and analyzed in view of achieving the targets of the updated NDC and DP-10 of the two target sectors.

Section three addresses the methodology and approach adopted for the institutional capacity gap assessment and development of capacity building action plans for the two target sectors.

Section four presents the assessment results. At this level of the report, the identified and prioritized institutional capacity gaps are discussed for the two sectors. The qualitative and quantitative analysis results are presented using charts, graphs, tables and narration. Previously identified key challenges and constraints were also included to see the full picture of the two target sectors.

Section five details the process of preparation of capacity development action plans for the two target sectors. Section six concludes and recommends based on the findings obtained from the assessment result and major findings.

2. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

Understandably, one of the specific objectives that this institutional capacity gap assessment and capacity development action plan preparation is to conduct in depth review and analyses of policies and strategies dedicated to CRGE/NDC for the two development sectors.

Sectoral Policies and Strategies include, policies and strategies on Mines & Petroleum, Urban Development & Construction such as Urban Development Policy, environment, energy, water resources development and management, fertilizers, biodiversity conservation and research, agricultural research, health, education and training etc. Cross-Sectoral Policies and Strategies include policies and strategies on rural development, capacity building, poverty, disaster preparedness and prevention management, conservation and environment, science and technology, population, women, biotechnology, poverty reduction, food security etc. in addition such programmes as that of poverty reduction and food security are also in place. Environmental information is very crucial for decision making on environmental issues and for the creation of awareness among various bodies. In view of the pivotal role that information plays the Ethiopian Environmental Policy has incorporated it as one of the cross-sectoral policy issues⁶ (EPA 2003).

2.1. Policy and Legal Framework

The Constitution of the Federal Democratic Republic of Ethiopia has several provisions, which has direct policy, legal and institutional relevance for the appropriate implementation of environmental protection. Articles 43 and 44 of the constitution are basics to understand the right to development and environmental rights of citizens. Further Article 92, states that all Ethiopians shall live in clean and healthy environment; no damage or destruction should happen to those basic environmental rights.

The Federal Government of Ethiopia has formulated and approved the Environmental Policy of Ethiopia (EPE) in 1997. The key objective of the policy is to update and suggest corrective measures to remove deficiencies of the previous policies for the environmental protection and conservation. This policy is integrated with the long-term Agricultural Development Led Industrialization, and other important Sectoral policies. The objective of the Environmental policy

⁶ State of the Environment Report of Ethiopia, EPA, 2003

is to achieve sustainable development in agriculture, water resources, and industrial & infrastructure sectors; and, as a result, improve and enhance the quality of life of its citizens. The policy contains Sectoral and Cross-Sectoral policies and various guidelines for its implementation.

2.2. Strategy

Ethiopia is experiencing the effects of climate change. Besides the direct effects such as an increase in average temperature or a change in rainfall patterns, climate change also presents the necessity and opportunity to switch to a new, sustainable development model. The Government of the Federal Democratic Republic of Ethiopia has therefore initiated the Climate-Resilient Green Economy (CRGE) initiative to protect the country from the adverse effects of climate change and to build a green economy that will help realize its ambition of reaching middle-income status before 2025⁷ (FDRE 2011).

The Climate-Resilient Green Economy (CRGE) initiative was started in 2011, giving the initiative three complementary objectives: Fostering economic development and growth; Ensuring abatement and avoidance of future emissions, i.e., transition to a green economy; and improving resilience to climate change.

As clearly indicated on the CRGE strategy to pursue a conventional economic development path to achieve the country's ambition of reaching middle-income status by 2025, the GHG emissions would be higher significantly. Therefore the aim of the CRGE strategy is to bring sustainable development in an environmental friendly manner.

Furthermore an increasing urban population drives increasing waste generation and (off-grid) energy consumption. Mining activities also affect the environment. Due to this implementing the CRGE is crucial for the two sectors in order to decrease the GHG emission of the sectors through development activities.

2.3. Updated NDC and DP-10

The government of Ethiopia has submitted its Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC) on 10th June 2015, which was latter converted to Ethiopia's 1st NDC, when Ethiopia ratified the Paris

⁷ Ethiopia's Climate-Resilient Green Economy, Green Economy Strategy, November 2011

Agreement (PA) on 9th March 2017. As per the decision 1/CP.21 of the Conference of Parties to the UNFCCC, which requested parties to update their NDCs every five years, pursuant to article 4, paragraph 9, of the Paris Agreement, Ethiopia has undertaken economy-wide analysis and comprehensive stakeholder engagement to update its NDC⁸ (FDRE 2020).

The ten-year development plan preparation has emphasized on the proper identification of the linkages between various sectors of the economy. The plan recognizes the high interdependence and interconnectedness of the various productive sectors, particularly, modern Agriculture, Manufacturing and Mines & Petroleum through input-output linkages. Trade and logistics, as well as services, were also closely coordinated in the planning process with the productive sectors of the economy in order to improve their efficiency by linking sectoral products with the markets. Similarly, infrastructure development (transport connectivity, energy, irrigation, communications, etc.) were planned in such a way that the development of one sector would serve as the base for the development of other sectors, while human resources and technology, which are decisive factors for ensuring productivity, have been planned in a similar approach so that the coordination would enhance the development of all other sectors⁹ (PDC 2020).

One of the principal objectives of the Urban Development & Construction sector is to improve greening and sanitation services so that cities/towns are livable and resilient to economic, social, environmental and ecological shocks. The main focus areas of the mining and petroleum development plan are increasing foreign exchange and domestic revenue earnings; increasing investment in the subsector; promoting the expansion of industries that add value; and creating job opportunities (PDC 2020).

The DP-10 of the sectors were prepared through active participation and involvement of various staffs, higher officials and responsible departments. The Urban Development & Construction sector has tried to mainstream the updated NDC in to the sectoral DP-10. But it requires revision in order to align the updated NDC and the sectoral DP-10. Whereas the Mines & Petroleum sector has limitation in mainstreaming the updated NDC in the sectoral DP-10. Therefore, the updated

⁸ Summary of Ethiopia's Updated Nationally Determined Contribution (NDC), 2020

⁹ EFDR Ten Year Development Plan, A Path to Prosperity, 2021-2030, PDC

NDC and DP-10 should be aligned for better implementation and sectoral GHG emission reduction.

2.4. Institutional Framework

At national level the CRGE strategy is coordinated by Inter-Ministerial Steering Committee answerable to the PM office. All ministers of sectoral institutions are members of the steering committee. There is also a CRGE management committee under the Inter-Ministerial Steering Committee, co-chaired by EFCCC and Ministry of Finance, where the sectoral offices are represented by their state ministers or assigned representatives. There are also other specific committees known as sub steering committee responsible for the management of the CRGE within the sectoral institutions.

Following the development of the CRGE strategy, CRGE facility was established to address financial and technical issues. Two wings of the facility, the financial and technical wings are established within MoF and EFCCC respectively, and CRGE directorates/units or case team were established in most of the line ministries.

2.4.1. Urban Development & Construction Sector

The ministry has established structure as a bureau, named as Urban Climate Change Resilience Bureau sub-dividing in to two directorates namely (Urban Greenery and Beautification Directorate and Urban Sanitation Service Monitoring and Support Directorate) under the minister office which is responsible for fostering the implementation of CRGE activities. The coordination between regions, other line ministries and city administration are expressed in terms of capacity building activities, experience sharing and provision of feedback on the status of implementation of the climate related activities. The ministry has also recently prepared its climate resilience strategy under the framework of the National Adaptation Plan.

2.4.2. Mines & Petroleum Sector

The ministry has organized an Environment and Community Development Directorate to coordinate the environment and climate change initiatives in the ministry. There is a better integration with regions, research institutes, and universities. There is no CRGE unit established in the Mines & Petroleum sector. The Mines & Petroleum sector needs strong organizational

structure and adequate skilled staff to implement the CRGE/updated NDC and the 10 year development plan at federal, regional and woreda levels.

3. METHODOLOGY AND APPROACHES

This section of the report detail the whole study methodology and approaches including conceptual framework, study design, data collection methods and analysis and report writing followed to undertake the assignment.

3.1. Conceptual Framework

For the study a conceptual framework from UNDP-GEF capacity building assessment framework was adopted to undertake institutional capacity gap and need assessment. The conceptual framework mainly focus on the whole process in assessing capacity gap of target institutions with the aim of achieving the overall objective of the assignment in particular and the ultimate goal of sectoral GHG emission reduction by supporting NDCs implementation.

The assignment started from institutional situation analysis by identifying major capacity gaps and training and other needs. Once identifying the gaps and what each sector needs/capacity constraints, the following steps are determining a series of actions and activities to overcome capacity constraints to achieve what each sector intended to perform. The following diagram presents the conceptual framework developed for this study.

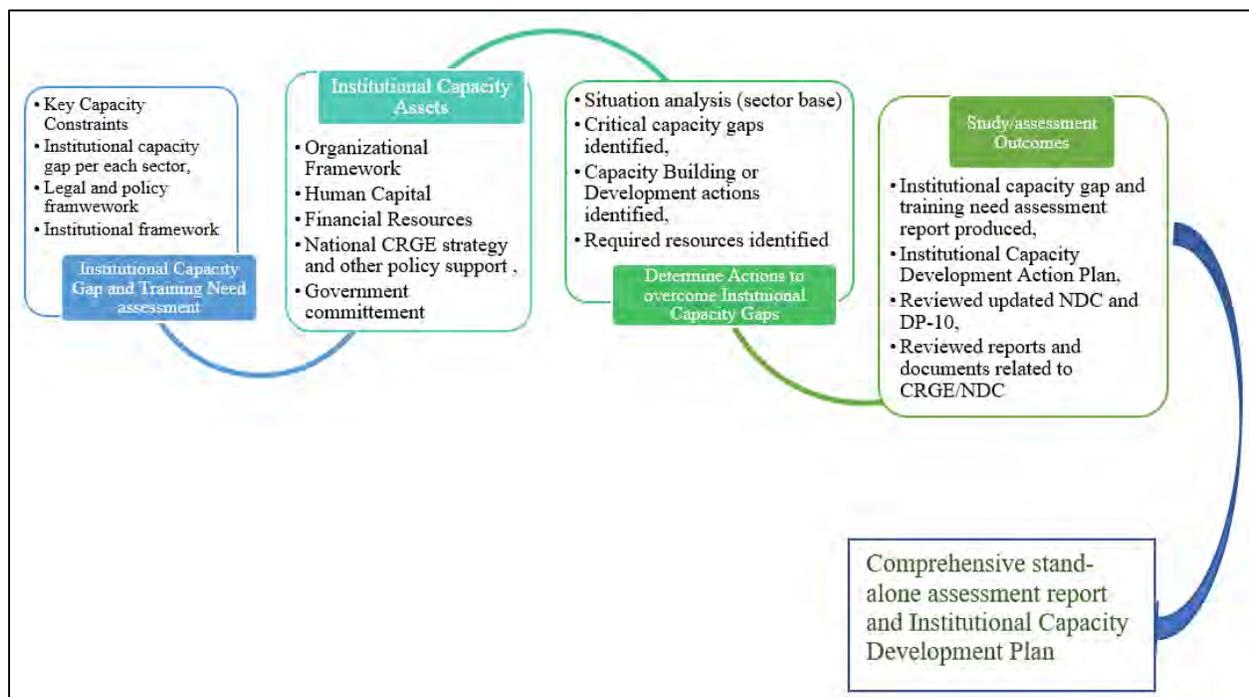


Figure 1: Institutional Capacity Gap Assessment Conceptual Framework

3.2. Data Analysis Tools

For this assessment SWOT (Strength, Weakness, Opportunity and Threat) analysis was used for each sector to understand the current situation of each sector. Based on the SWOT analysis results capacity building options were recommended for each institution.

PESTEL analysis tool was used to analyze political, economic, sociocultural, technological, environmental and legal situation of the sectors for implementing the updated NDC and DP-10.

SPSS version 26 and excel spreadsheet were used to analyze qualitative and quantitative data obtained from literature review, FGD, KII, and expert survey at Federal, Regional and Woreda level.

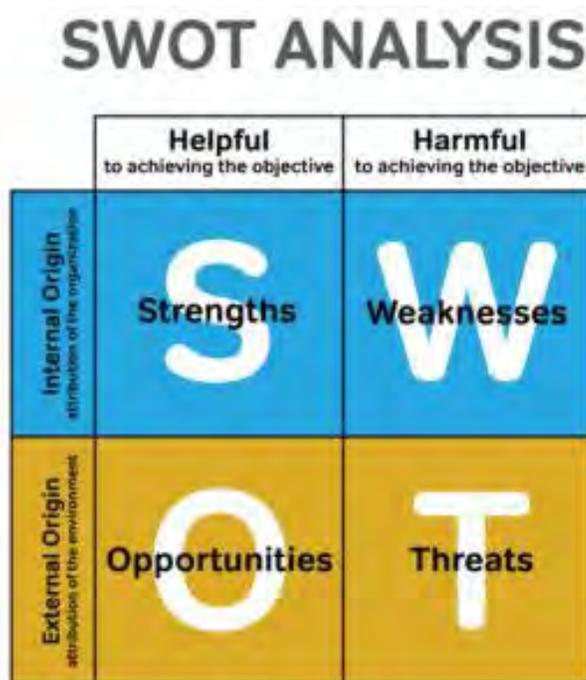


Figure 2: SWOT Analysis Framework

3.3. Analytical and General Study Framework

To undertake the study a wide variety of data sources and methods were used. Primary data collected through expert survey, key informant interviews (KII), focus group discussions (FGD) and secondary data was collected through in-depth review of documents obtained from the two target sectors and various stakeholders. In addition, physical observation was used to witness the reality in each sector offices at regional and federal level and also for triangulation of information

collected by other tools. The general study approach and analytical framework is represented by the following diagram:

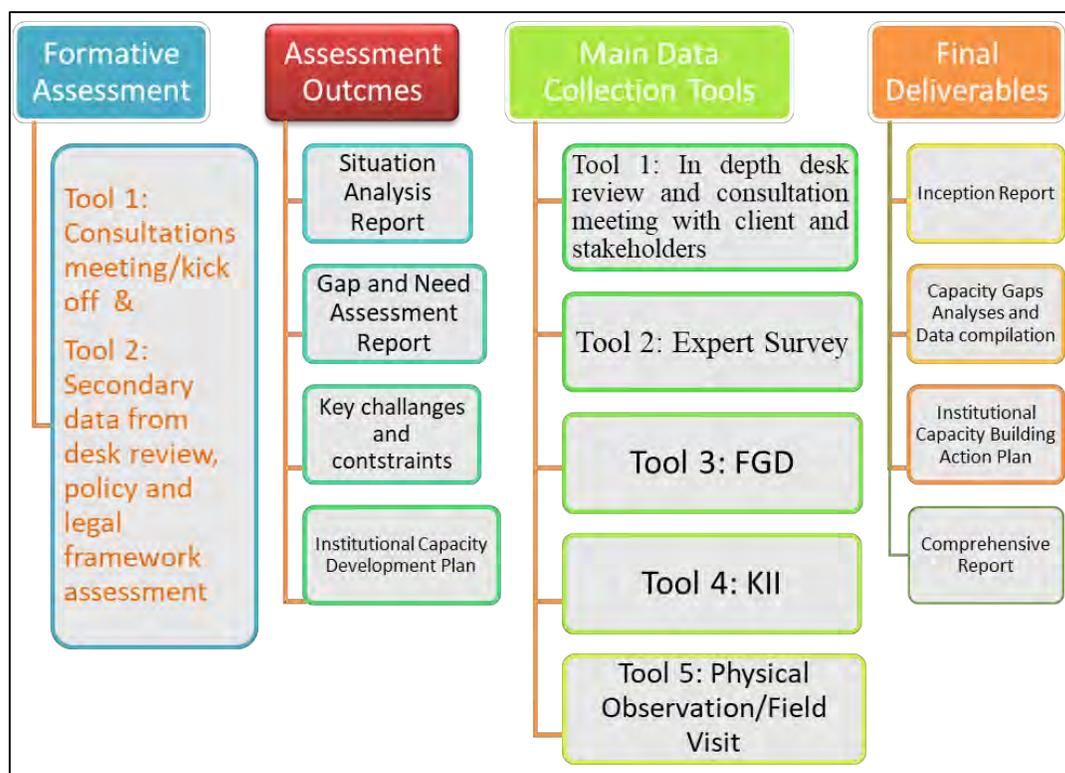


Figure 3: Analytical and general study framework

To undertake the assignment the capacity assessment methodology outlined by the UNDP Capacity Assessment Methodology User’s Guide was used. Apparently, UNDP suggests the need to follow a three-step process to conduct a capacity assessment. The activities in each step aim at deepening engagement of national partners and promoting dialogue among key stakeholders around the capacity assessment process.

Mobilize and design: Engaged stakeholders and a clear design are key to a successful capacity assessment. The design is driven by three guiding questions: 1) ‘capacity for why?’ 2) ‘Capacity for whom?’ and 3) ‘capacity for what?’¹⁰.

¹⁰ The phrasing of the questions in this way has proved to be appealing and intuitive to people working on capacity development.

Conduct the capacity assessment: During the capacity assessment data and information are collected on desired and existing capacity. This data and information can be gathered by a variety of means, including self-assessment, interviews and focus groups.

Summarize and interpret results: The comparison of desired capacities against existing capacities determines the level of effort required to bridge the gap between them and informs the formulation of a capacity development response.

One of the central objectives of the assignment is to undertake institutional capacity gaps assessment to address the capacity needs and constraints in the Urban Development & Construction and Mines & Petroleum sectors. In these regards, the study considers five main pillars of capacity gap analysis. These are organizational, staff adequacy and professional qualification, training needs, system and technology. More in this, it is crucial to understand the relationship among those five pillars meant to achieve sectoral goals and targets in time and space.

The UNDP in bold underlines professionalism, the right expert on the right job, with which qualified experts shall also be enriched with training-on the job and/or off the job. This indeed helps to ensure that the Urban Development & Construction and Mines & Petroleum sectors meet desired objectives. Quite numerous empirical evidences exist showing failure due overlooking those five pillar elements. Hence, the assessment used this assertion throughout the assignment lifecycle period.

With the need to give insight on the critical parameters that were recorded during field data collection period (schemed to organizational, staff adequacy & professional qualification, training needs, system and technology requirements), the capacity gap assessment targets key indicators vital to carryout monitoring and evaluation tasks in the Urban Development & Construction and Mines & Petroleum sectors. The below subsequent sub-sections try to pinpoint capacity gap analysis themes with respect to indicator variables, by which a similar approach be followed and applied for both sectors, pursuant to the Ethio-UNDP codes of conducts and standards.

(1) Organizational Gap Analysis

Obviously, different organizations follow and adopt different methods to undertake gap analysis. With this, the investigation assumes a-more-or-less similarity between the Urban Development & Construction and Mines & Petroleum sectors in terms of institutional set-ups and arrangements

both expected not to qualify for well-developed methodologies as well as international standard mode of capacity building. At this stage the existing organizational structure and institutional arrangement was reviewed and the gap at the organization level was outlined in view of strengthening the existing organization structure to meet their goals. The main target of this assessment was to outline the organizational structure of the two target sectors is weather aligned to the CRGE facility institutional arrangement or not.

(2) Staff Adequacy & Professional Qualification Gap Analysis

The qualification of existing staffs was analyzed in view of the requirements of the Urban Development & Construction and Mines & Petroleum sectors and their job description to see if they are assigned in appropriate departments based on their qualification and skill where they can deliver the best output. The gap is analyzed based on the ideal position and their existing position in various departments of both sectors. In addition adequacy of staffs that is number, composition, type, enrolment, qualification, future need and gap were analyzed in detail.

(3) Training Need Assessment

Situational assessment is conducted and the efficiency and effectiveness of the previously organized on-job and off-job trainings was analyzed. Future training gaps are identified and analyzed based on the performance of the staffs and the training needs were outlined clearly.

(4) System Gap Analysis

At this stage the existing gaps on information communication and performance audit systems in the two target sectors were identified. Assessing the existence of information communication and performance audit systems in the Urban Development & Construction and Mines & Petroleum sectors is crucial to strengthen the target sectors to achieve their goals. System also refers to database management, knowledge management, coordination and partnership mechanism and monitoring and evaluation in this assessment.

(5) Technology Need Assessment

In order to achieve the sectors goal of GHG emission reduction, technology requirements are high in both sectors. Therefore the sectors capacity to identify and utilize appropriate technologies for climate change adaptation and mitigation interventions were assessed properly.

After gap analysis the next step is design and development of institutional capacity building action plans in which the two target sectors shall exercise in order to fill their organizational; professional, skill and training gaps; to install appropriate information communication & performance auditing systems and to adopt appropriate technology for climate change adaptation and mitigation in order to meet their objectives at large and to enable themselves to apply policies, strategies and development directions of the country by which they can be active participants in achieving the updated NDC and CRGE goals that are set out to transform Ethiopia and make the country one of the developing nations by 2030 by building prosperous community by reducing GHG emission and promoting green economy.

During this phase goals were set out clearly in view of the countries development policies and strategies; and in line with the updated NDC and CRGE goals. The objectives are defined. Priorities were identified and institutional capacity building action plans were developed for Urban Development & Construction and Mines & Petroleum sectors as stated on the objective and scope of work.

The main activities necessary to meet the objectives and achieve the goals were identified for both target sectors, expected results are discussed and risks and assumptions are clearly identified.

UNDP defines capacity development as the process through which individuals, organizations and societies obtain, strengthen and maintain the capabilities to set and achieve their own development objectives over time. Capacity development is not a one-off intervention but an iterative process of design-application-learning-adjustment. UNDP captures this in a five-step process cycle (see Figure 4). These steps broadly coincide with the steps of a planning or programming cycle. Approaching capacity development through this process lens makes for a rigorous and systematic way of supporting it, without using a blueprint, and improves the consistency, coherence and impact of UNDP's efforts. It also helps promote a common frame of reference for a programmatic response to capacity development¹¹ (UNDP 2008).

The five steps of the UNDP capacity development process that are adopted for capacity building are:

¹¹ UNDP Capacity Assessment Methodology, User's Guide, Capacity Development Group Bureau for Development Policy November, 2008

1. Engage stakeholders on capacity development;
2. Assess capacity assets and needs;
3. Formulate a capacity development response;
4. Implement a capacity development response; and
5. Evaluate capacity development.

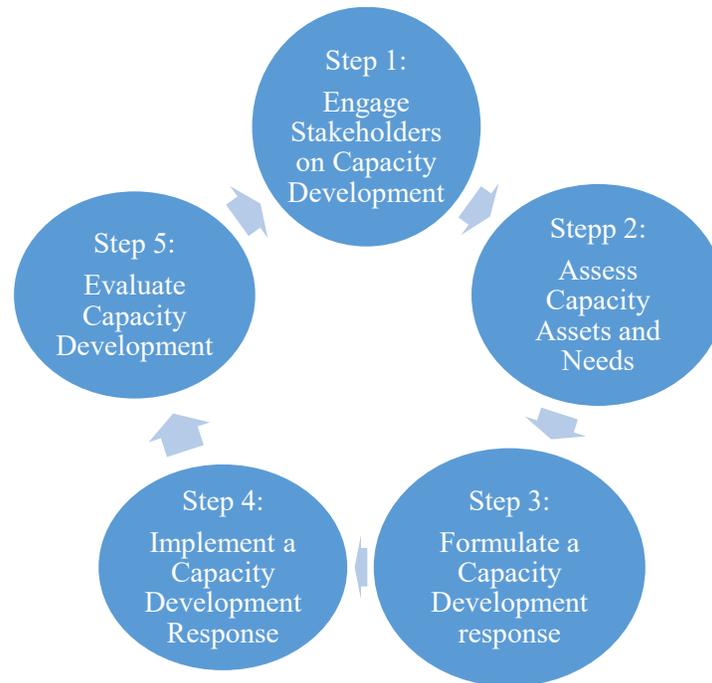


Figure 4: The UNDP Capacity Development Process

3.4. Study Design

In undertaking this assignment, a participatory methodology was utilized which involve all relevant stakeholders involved in Climate Resilient Green Economy, NAP and NDC implementation and other sectors with direct involvement in the process at federal level and sector offices in SNNPR. A combination of research methods were used in the execution of this particular assignment, guided by ‘considerations of cost-effectiveness and timeliness in obtaining policy-useful assessment result. For this consultancy service: in-depth desk review, expert survey, key informant interview, focus group discussion were conducted to collect primary and secondary data. Situation analysis and competitiveness analysis and consultation meeting with client were also conducted to get the required data and information. PRA tools and techniques were employed to discuss with interviewees at all time.

3.5. Data Collection

3.5.1. In depth Document Review/Desk Study

Document review was conducted to understand the context, and to complement information gaps in the assessment. Desk review work involve the review of a wide range of studies and policy documents, which include reviewing and understanding the relevant government policies, strategies and plans of the government (such as the DP-10, GTP), and sector strategy documents particularly the CRGE strategy, updated NDC, ETH NAP, development strategies of the key sectors focusing on Urban Development & Construction and Mines & Petroleum sectors, and others. In addition CRGE National Capacity Development Programme Gap Assessment report, Ethiopia's Climate Resilient Green Economy (CRGE) Strategy (2011-2019)- Implementation Progress Assessment Report, the GTP II review Reports of the two sectors, reports of climate change related projects implemented in the sectors (which includes ULGDP I, II, NAMA COMPOST & other resilience projects), the final ten-year DP of the two target sectors etc. were reviewed and existing institutional capacity gaps, challenges and constraints for CRGE/NDC implementation were identified. Desk review include the analysis of various statistical sources and review of experience of other countries and good practice guidelines as found relevant from secondary documents in addition Ethiopia's environment and related proclamation and national and international policy and regulation were reviewed in view of the objective of the assignment. Relevant assessments and studies made by national and international institutions related to climate change adaptation and mitigation were also reviewed.

Moreover, desk review can help to understand all stakeholders' achievement, role and potential responsibilities in future collaboration and synergy regarding climate change and related environmental challenges and opportunities in reducing negative impacts and roles and responsibilities of key stakeholders in supporting the sectoral contribution and related issues.

3.5.2. Focus Group Discussion

Focus group discussions (FGDs) were held with sectors staffs at Urban Development & Construction and Mines & Petroleum sectors at federal level and regional offices disaggregated by profession, seniority and leaders to get most reliable information from target groups. The consultant conducted each FGD with available participants using the FGD guide. A total of nine

focus group discussions were conducted with 24 participants from EFCCC, MoUDC, MoMP and regional bureaus and woreda office. The FGD was participatory and the required qualitative and quantitative data was collected.

3.5.3. Key Informant Interview

In order to incorporate the knowledge and skill of decision makers, experts and special/subject matter advisors, semi-structure interviews were conducted at federal and regional level with concerned institutions, key stakeholders, implementers, research institutions, and academic institutions etc. More than 18 KIIs were held to know all about the implementation progress of the CRGE/NDC and to identify key gaps. Higher officials and senior experts from EFCCC, MoF, PDC, MoUDC, MoMP and regional bureaus had participated in the key informant interview. In addition many stakeholders were addressed through KII, among them higher officials and senior experts who are involved in the CRGE/NDC implementation from development partners like World Bank, European Union, SNV and GIZ were interviewed and the required data and information was gathered.

3.5.4. Expert Survey

Expert survey was conducted in the two target sectors at federal, regional and woreda level. Structured and Semi structured questions were used for the assessment. The experts were briefed about the assessment and the objective of the assignment. About 50 experts had participated in the expert survey and the qualitative and quantitative data obtained were used for analysis.

3.6. Data Validation

The collected data was presented in the data validation workshop conducted at Bishoftu which was organized by EFCCC and UNDP. At the validation workshop higher officials and experts from the two target sectors and stakeholders were present. The institutional capacity gaps identified during the data collection were presented and updated based on the comments from the participants. Finally the key institutional gaps and limitations were forwarded to the two sectors for final validation. The validated data was used for analysis and result presentation.

3.7. Data Analysis, Interpretation and Report Writing

In this study, the collected data and information from various sources were analyzed using both qualitative and quantitative methods. Qualitative data analysis were conducted following a content-by-content to triangulate and further elaborate the findings of the assessment. Qualitative Data Analysis was held for explanatory variables as well as transcribed and/or translated attributes obtained from interviewees such as KII and FGDs held by local-languages including pictures/audio-video records, interviews/records and field notes taken during field observation period. Quantitative data analysis method was used for parametric data obtained from expert survey, KII and FGDs, including official datasets gathered from different organizations/stakeholders in excel-book format sheets.

Moreover, materials and tools were used to study institutional capacity gap and prepare institutional capacity development action plan for Urban Development & Construction and Mines & Petroleum sectors. Statistical software, SPSS Ver. 26, was used to assess the extent to which the two sectors perform towards capacity building and development by integrating climate change adaptation and mitigation measures through GHG emission reduction. Meanwhile, statistical and excel books were used as tools during descriptive analysis and mean comparison period. Furthermore, Likert-scale weighting and ranking criteria tools were applied to screening the major capacity gaps, including priority suggestions obtained from respondents. In addition, analytical tools widely used by reputable institutions, i.e. SWOT and PESTEL, were used for multi-factored explanatory attributes during the assessment, analysis and appraisal period.

Analyzed data outputs were expressed using descriptive statistics, i.e. percentage, frequency, mean, minimum and, maximum values. And, summary of results were indicated in tables, charts, graphs and schematic diagrams. The analysis and interpretation results were incorporated in the report preparation and write up.

Finally, the institutional capacity building action plans were prepared for the two sectors by identifying key indicators and activities necessary to fill the gaps of the Urban Development & Construction and Mines & Petroleum sectors. An indicative cost was calculated for the specific activities and the capacity building action plan was prepared for ten year period (2021-2030).

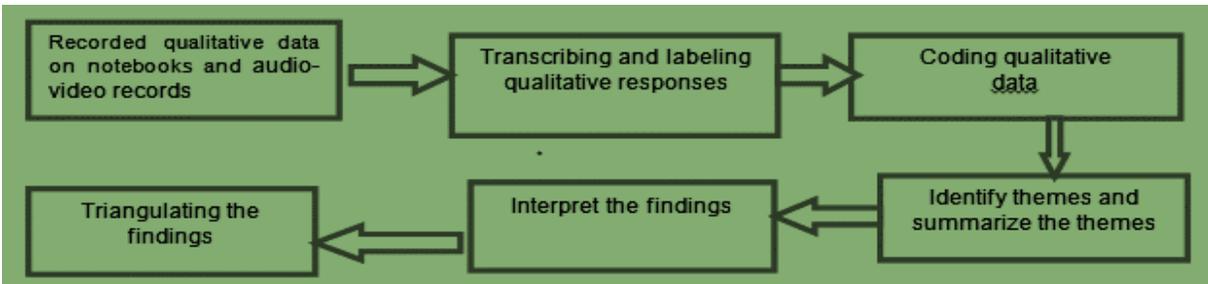


Figure 5: *Qualitative Data Analysis*

4. RESULT AND DISCUSSION

This section addresses the major findings and detailed analysis results with respective discussions in view of the objective and scope of the institutional capacity gap assessment and preparation of the institutional capacity development action plans for Urban Development & Construction and Mines & Petroleum sectors to implement the updated NDC and sectoral DP-10.

4.1. Situational Analysis

4.1.1. PESTEL Analysis

The purpose of the PESTEL analysis is to make look around and see what is happening in the broader economic and business environment. All businesses are part of a larger system, the economy. Doing a PESTEL analysis helps to look at all important factors that might affect the success or failure of your business¹² (Alanzi 2018).

PESTEL is an acronym for the following factors (Political, Economic, Social and Cultural, Technological, Environment and Legal). The core elements of the analysis are: ‘Political’, ‘Economic’, ‘Social’ and ‘Technology’. To these core elements are added ‘Environment’ and ‘Legal’ to make the PESTEL the potential issues to examine could volumes.

The identification of future macroeconomic variables of interest and the construction of different scenarios allow the institution to better anticipate the strategic decisions needed to ensure the proper development and sustainability of the sector.

The PESTLE analysis is conducted for the two target sectors to assess the existing situation in view of institutional capacity development.

Political Factor (P): The environmental process cannot succeed in its aims without political commitment, public support and adequate resources. Underdeveloped countries with weak economies and/or unstable political conditions might need to gradually introduce or strengthen their environmental systems. With this, both the Urban Development & Construction and Mines & Petroleum sectors have now been given due emphasis under the frameworks of Ethiopia’s sustainable development strategy, *macroeconomic and sectoral reforms*, together with the DP-10 and updated NDC implementation strategies. However, the Mines & Petroleum sector had been

¹² PESTEL ANALYSIS, Salem Alanzi, 2018

overlooked by the CRGE. This rearrangements might probably trigger its potential contribution towards addressing environmental and climate change issues. At the moment, its role to enhance capacity building to achieve GHG emissions reduction has been little, when compared to its potential for intervention.

Economic Factor (E): Part of the political commitment to the environmental process is the provision of adequate funds to administer the process and carry out required activities. Where necessary, this commitment should include funds for environmental capacity building and training. Often, too, there is a need to provide funding for public involvement programs, especially in cases where major projects result in involuntary resettlement or other types of social dislocation. Generally, the need for these programs is greatest where financial resources are scarcest. Realistically, in many cases progress will be limited without international support. In the long term, adequate funding will depend upon the recognition of the benefits that the environmental process brings to a country. These benefits need to be recorded (such as in case studies) so that they are available for later use. Being unable to access the international climate finance at the required level impacts the two sectors in implementing the updated NDC and their sectoral DP-10.

Sociocultural Factor (S): It is important for all stakeholders to have a realistic understanding of the role that environmental concern is intended to play in development approvals. Also, in order to ensure continued support for the environmental process, its benefits need to be explicitly recognized and acknowledged, and if necessary, action taken to add value. **Public involvement:** Although attention to technical matters is essential, public involvement is crucial to identifying the issues and information that may be of importance in environmental issues. Local knowledge also may be of considerable benefit to the development and viability of a project. Many projects have failed because they did not take into account local or traditional factors or because they failed to gain public acceptance and support. Enhancing the awareness level of the society regarding climate change issues will have a positive impact in implementing the updated NDC. Since Ethiopia is a multicultural nation any considerations to intervene GHG emission reduction needs to be framed by consulting various factions of the community. In order to implement the updated NDC and sectoral DP-10 in the two sectors the existing micro and small enterprises in both sectors and artisan miner involvement should be enhanced.

Technological Factor (T): Successful operation of the environmental system depends upon the availability of qualified people with the technical skills and expertise to identify and utilize various technology for adaptation and mitigation. Adequate technology for adaptation and mitigation measures in the two sectors shall be available in the required quantity and type. The Urban Development & Construction and Mines & Petroleum sectors have to be supported for identification and utilization of appropriate technology for adaptation and mitigation measures.

Environmental Factor (E): The general focus on environmental protection and biodiversity conservation by the government will ensure a continued conducive platform for GHG emission reduction. Though Ethiopia's contribution in GHG emission is minimum compared to developed nations climate change is affecting the environment and the society. Therefore supporting the two sectors to reduce their GHG emission will play a major role in protecting the environment.

Legal Factor (L): The legal and institutional arrangements for environmental need to be implemented fairly, consistently and efficiently. Legislation should make clear and explicit provision for the environmental process and identify the responsibilities of the various participants. It needs to be framed specifically to achieve the goals or outcomes that have been identified and incorporate provision for periodic review (to allow for the lessons of experience, changing societal expectations and new demands). A functional legal system is needed if environmental legislation is to be implemented effectively for GHG emission reduction. The legislative frameworks and laws have also been identified as determinant factors influencing successful NDC implementation and climate action at sectoral level. There is better legal framework in the Urban Development & Construction sector but there are some issues that require attention and amendment in this regard. In the Mines & Petroleum sector Mineral operation Proclamation 678/2010 and Regulation 423/2018 gave emphasis on environmental protection and community safety on sector developments. But the sectoral legislatives do not indicate clearly CRGE mainstreaming across sector development and even do not recommend the regions and downwards need to establish environmental organs across the sector.

4.1.2. SWOT Analysis

A SWOT analysis evaluates the internal strengths and weaknesses, and the external opportunities and threats in an organization's environment. The internal analysis is used to identify resources, capabilities, core competencies, and competitive advantages inherent to the organization. The

external analysis identifies market opportunities and threats by looking at competitors' resources, the industry environment, and the general environment. The objective of a SWOT analysis is to use the knowledge an organization has about its internal and external environments and to formulate its strategy accordingly¹³ (Sammut-Bonicci 2017).

4.1.2.1. Urban Development & Construction Sector

Table 1: SWOT Analysis for Urban Development & Construction Sector

Strengths (S)	Weaknesses (W)
Efforts in building the capacity of regions	No MRV (measuring, reporting and verification) unit, limited knowledge on how to measure GHG emission of the sector
Conducted experience sharing at regional level	Limitation on climate change adaptation and mitigation
CRGE unit is established at Bureau level	Lack of baseline data on sectoral GHG emission
Staff involvement during the preparation of DP-10	Limitation on landfill management system
Capacity building trainings are conducted: <ul style="list-style-type: none"> • Online training given for selected staff on IPCC software by GEF • Solid waste management by UNDP 	No strong database management system
Good practice on supervision and follow up	Lack of knowledge management system
Opportunities (O)	Threats (T)
Organizational relation is led through the signed memorandum of understanding with EFCCC	Limited coordination and synergy among stakeholders for NDC implementation
Existence of flagship projects for NDC implementation	Financial limitation for NDC implementation
Availability of study documents for solid waste management	Population growth and emerging towns
Existence of global climate finance, bilateral and multilateral donors	
Involvement of development partners in climate change issues	

4.1.2.2. Mines & Petroleum Sector

Table 2: SWOT Analysis for Mines & Petroleum Sector

Strengths (S)	Weaknesses (W)
Low GHG emission at sectoral level	Low awareness on environmental issues

¹³ SWOT analysis, Tania Sammut-Bonicci, 2017

Capacity building trainings are conducted: <ul style="list-style-type: none"> • Trainings given on CRGE overview and environment and social development • Online training given for selected staff on IPCC software by GEF 	No MRV (measuring, reporting and verification) unit, limited knowledge on how to measure GHG emission of the sector
Raw data on GHG emission is being submitted for EFCCC, MRV directorate, on Coal, oil and natural gas and fossil fuels since 2008	Inadequate human resource
Communication with EFCCC, MoF and planning commission	No strong data base management system
Staff involvement during the preparation of sectoral DP-10	Lack of baseline data for GHG emission
	Lack of knowledge management system
	Limitation on climate change adaptation and mitigation
	No need-based capacity building system
Opportunities (O)	Threats (T)
Organizational relation is led through the signed memorandum of understanding with EFCCC	Limited support from development partners
Availability of resource for fuel switching and green coal	Lack of incentive mechanism
Focus given for the sector on the updated NDC	Limited coordination and synergy among stakeholders for NDC implementation
Existence of global climate finance, bilateral and multilateral donors	Financial limitation for NDC implementation
Involvement of development partners in climate change issues	Increasing demand for coal and petroleum will increase the GHG emission
	Lack of policy support (the sectoral policy is not yet approved)

4.2. Capacity Gap Analysis and Result

4.2.1. Qualitative and Quantitative Analysis and Result

This section of the report is the heart of the institutional capacity gap assessment analysis and result for the Urban Development & Construction and Mines & Petroleum sectors. In due regards, the below further sub-sections try to address the main analysis result outputs using SPSS, Ver. 26. With this, the detail analyses and discussion target on results obtained from descriptive statistics, multinomial and ordinal-regression model, multi-response rate analysis using Likert-scale weighting and ranking method, non-parametric tests held for qualitative data inputs, stakeholder analysis in view of their roles and functions to implement sectoral DP-10 and updated NDC, and

finally the reliability and validity tests conducted to understand the precision level of generated outputs and the respective level of information usability by the two sectors.

4.2.1.1. Descriptive Statistics

The institutional capacity gap assessment was conducted in Addis Ababa and SNNPR. Most of the respondents are from Addis Ababa as shown in the pie chart below since the main duty station for the assessment was Addis Ababa.

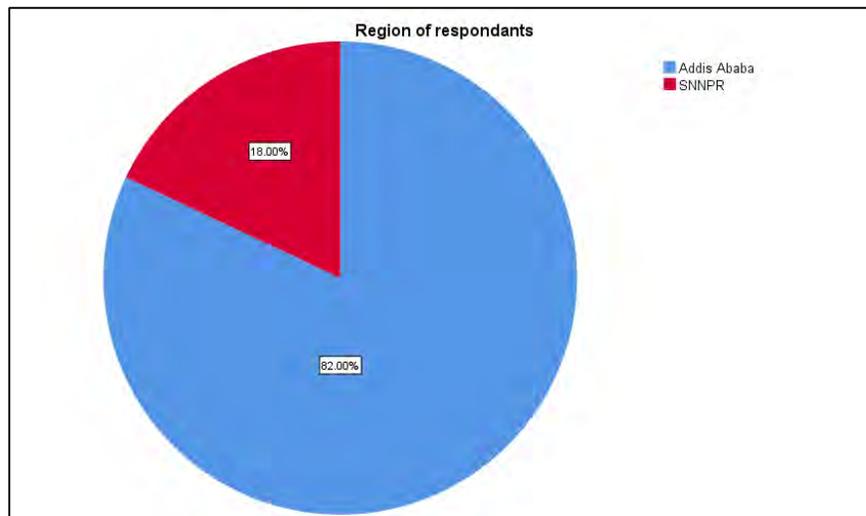


Figure 6: Regional distribution of respondents for the two sectors

The number of respondents and their percentage share for the two sectors is presented in table 3 below. For the expert survey 58% of respondents were from Urban Development & Construction and 42% of respondents were from Mines & Petroleum sectors.

Table 3: Respondents in each sector

Sectors	Frequency	Percent	Cumulative Percent
Urban Development & Construction	29	58.0	58.0
Mines & Petroleum	21	42.0	100.0
Total	50	100.0	

Based on the expert survey analysis most of the participants have master's degree and some of them have first degree and most of them are well experienced.

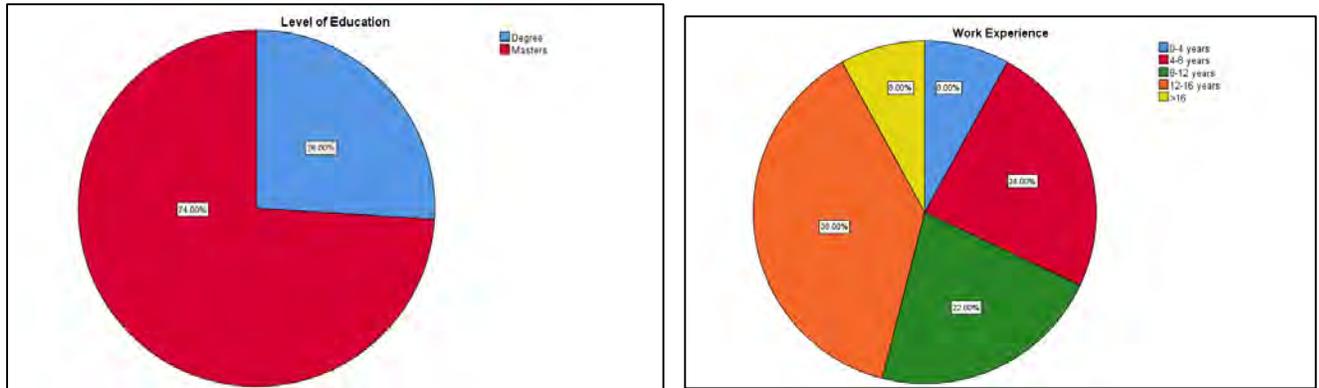


Figure 7: Level of education and work experience of the respondents from the two sectors

Regarding to awareness about the NDC and sectoral DP-10 most of the experts have knowledge but there is also a significant gap that need to be addressed for better implementation. The major gap on awareness level is found in the Mines & Petroleum sector at federal, regional and woreda level. In the Urban Development & Construction sector the gap exists at regional and woreda level.

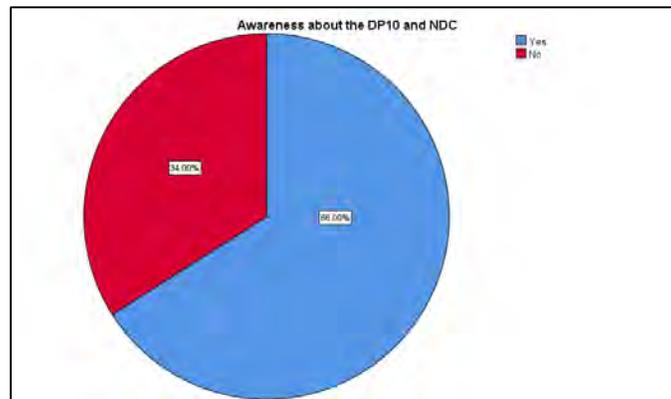


Figure 8: Awareness about DP-10 and NDC

The analysis result shows that the staff capacity and operational procedures to prepare sectoral plans and implement DP-10 is moderate to high in the Urban Development & Construction sector. The capacity of the Mines & Petroleum sector in this regard is low to moderate. Therefore much work is required to enhance the staff capacity and operational procedures to prepare their annual plans and better implementation of DP-10 of the sectors.

Table 4: Staff capacity and operational procedures

Rating criteria	Frequency	Percent	Cumulative Percent
Very low	4	8.0	8.0
Low	15	30.0	38.0
Moderate, with 50% compliance	15	30.0	68.0
High, 75% compliance	16	32.0	100.0
Total	50	100.0	

Regarding to knowledge level of the staffs for prioritizing adaptation for the updated NDC and DP-10 implementation, the Urban Development & Construction sector has better understanding since it has been implementing the CRGE. Since there is further training need the Urban Development & Construction sector has to exert some effort to enhance knowledge and skill of its staff for better implementation.

The Mines & Petroleum sector has limitation in knowledge and skill for prioritizing adaptation due to limited experience in CRGE/NDC implementation. The assessment result showed that there is a need for further training to fill the knowledge gap of experts and hence the Mines & Petroleum sector needs to enhance knowledge and skill of its staff for effective implementation of the updated NDC and DP-10.

Table 5: Need assessment for additional knowledge and skill

Rating criteria	Frequency	Percent	Cumulative Percent
Very low	12	24.0	24.0
Low	12	24.0	48.0
Moderate, with 50% compliance	15	30.0	78.0
High, 75% compliance	11	22.0	100.0
Total	50	100.0	

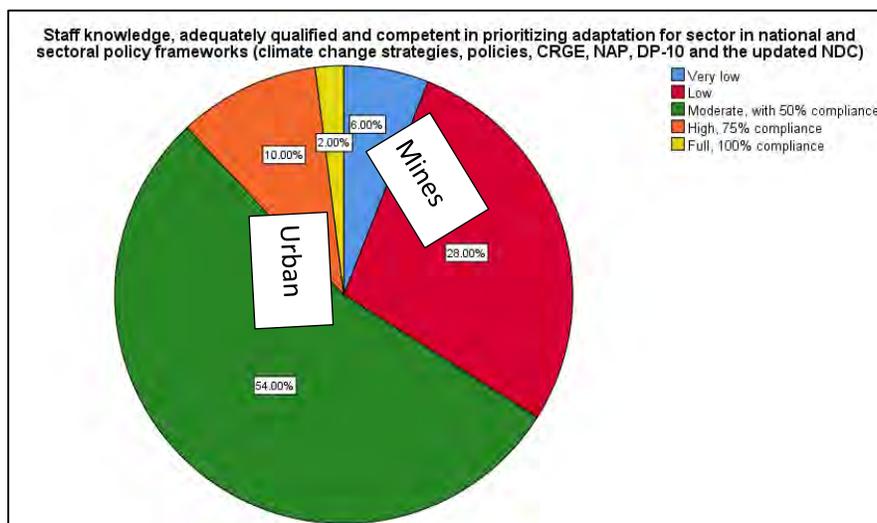


Figure 9: Staff knowledge on climate change issues

Capacity building trainings have been conducted at national and sectoral levels to enhance the knowledge and skill of staffs at different times. But there is no need-based and systematic capacity development program in the two sectors. This fact together with high staff and higher officials' turnover is affecting the performance of the sectors.

Table 6: Capacity building trainings

Response	Frequency	Percent	Cumulative Percent
Yes	36	72.0	72.0
No	14	28.0	100.0
Total	50	100.0	
Capacity building trainings conducted			
Training themes	Frequency	Percent	Cumulative Percent
Solid waste management and land fill operation	11	22.0	22.0
Planning, monitoring and evaluation	2	4.0	26.0
Environmental safeguards	1	2.0	28.0
Climate change policies	1	2.0	30.0
CRGE/NDC and DP-10	20	40.0	70.0
Not stated (experts took trainings but did not specify)	15	30.0	100.0
Total	50	100.0	

Based on the training need assessment conducted for the two sectors 28% of the respondents replied that they had never taken any capacity building training in their stay in the sectors. Even those who took trainings in the previous years need refreshment and basic trainings to enhance their knowledge and skill for better performance. The quantitative analysis showed that some trainings were conducted by stakeholders for experts and officials in the two sectors regarding utilization of the IPCC software. But they still need hands on training to manipulate the IPCC software. At regional level it has been learnt that even there are experts at lower structures who need basic computer training for data manipulation, data processing and report writing. The pie chart below highlights the type of training needed to support the experts and higher officials to enhance their knowledge and skill to implement the updated NDC and sectoral DP-10 successfully.

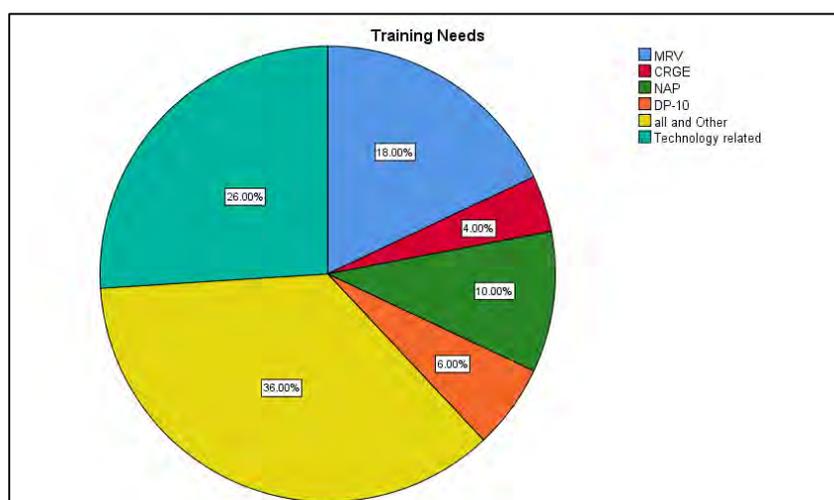


Figure 10: Training need assessment result

4.2.1.2. Descriptive Statistics Analysis Result

The descriptive statistics analysis was conducted for factors expected to hinder the institutional capacity building and institutional capacity development action plan targeting the updated NDC and DP-10 implementation. With this, non-parametric variables within the qualitative dataset were transformed to normality, sub-group variables subject to main variables. The below summary table shows the overall result of the institutional capacity gap assessment.

Table 7: Descriptive statistics analysis result

Variable	Response	N	Marginal Percentage
What are the key institutional capacity gaps in your sector?	Human resources	2	4.8%
	Financial resources	5	11.9%
	Technology and system	6	14.3%

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Variable	Response	N	Marginal Percentage
	MRV	12	28.6%
	Knowledge and skill	11	26.2%
	All	6	14.3%
Roles of the sector on NDC implementation and its contribution needed?	Technical support	6	14.3%
	Budget support	1	2.4%
	Implementation	4	9.5%
	All	31	73.8%
To what extent Training related capacity development system is available in the organization?	Low	35	83.3%
	Moderate	7	16.7%
What are the key challenges your institution may face in sustaining the project interventions?	Lack of expertise skill	16	38.1%
	Lack of strong coordination and integration mechanism	5	11.9%
	Inadequacy of infrastructure	4	9.5%
	Monitoring and evaluation	8	19.0%
	Need-based and systematic capacity building	8	19.0%
	Other	6	14.3%
What are the possible measures to address the challenges?	Looking for alternative finance resource	7	16.7%
	Need for consistent organizational structure	6	14.3%
	Establishing sectoral MRV unit	8	19.0%
	All	7	16.7%
	Other	6	14.3%

4.2.1.3. Likert Scale

The Likert-Scale analysis was conducted after screening of the significance of identified factors for institutional capacity gap assessment and institutional capacity development action plan for the two sectors. With this, multinomial and ordinal-regression models were used to screening degree of importance value of key variables of the quantitative dataset, and of that further scaling and rating was performed using Likert-Scale method in Excel-sheet. The below table summarizes the outputs of multinomial and ordinal-regression analysis.

Table 8: Comparison analysis result

Extent of Institutional Capacity Gaps	Very low	Low	Moderate, with 50% compliance	High, 75% compliance	Very High, 100% Compliance	Sub-Total
Mandate to access, manage and provide information on climate vulnerability, hazards and impacts	8	8	28	6	0	50
Staff capacity and operational procedures to mainstream the	9	11	24	6	0	50

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updated NDC and implement DP-10						
Policy mechanisms and institutional arrangements for effective implementation of DP-10 and the updated NDC	7	14	20	9	0	50
Support by robust policy frameworks (climate change strategies and policies at national or sectoral level) to address adaptation and mitigation planning	4	14	16	16	0	50
Alignment among short, medium and long term objectives and actions of the existing adaptation policy frameworks (climate change strategies, policies, CRGE, NAP, DP-10 and the updated NDC)	7	13	16	13	1	50
Clarity of mandate, vision and mission within the sector/department/unit with regard to adaptation and mitigation planning	6	21	13	10	0	50
Staff capacity and operational procedures to ensure appropriate priorities for the sector, as well as integrate the sector into the DP-10 and the updated NDC implementation process	4	15	15	16	0	50
Staff knowledge, adequately qualified and competent in prioritizing adaptation for sector in national and sectoral policy frameworks (climate change strategies, policies, CRGE, NAP, DP-10 and the updated NDC)	3	14	27	5	1	50
Additional skills needed to effectively mainstream the updated NDC and implement DP-10	12	12	15	11	0	50
Institutional Capacity gaps	6	9	23	12	0	50
Financial resources availability and management per planned adaptation objectives	9	21	12	8	0	50
Required technology and system to implement DP-10 and mainstream the updated NDC effectively	7	17	13	13	0	50

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Technology and system gaps to implement DP-10 and the updated NDC effectively	8	11	8	23	0	50
Total Counts	90	180	230	148	2	650
Relative Proportion	0.14	0.28	0.35	0.23	0.00	1.00

Based on the expert survey, KII and FGD analysis result the below Likert scale was produced in view of successful implementation of the updated NDC and sectoral DP-10.

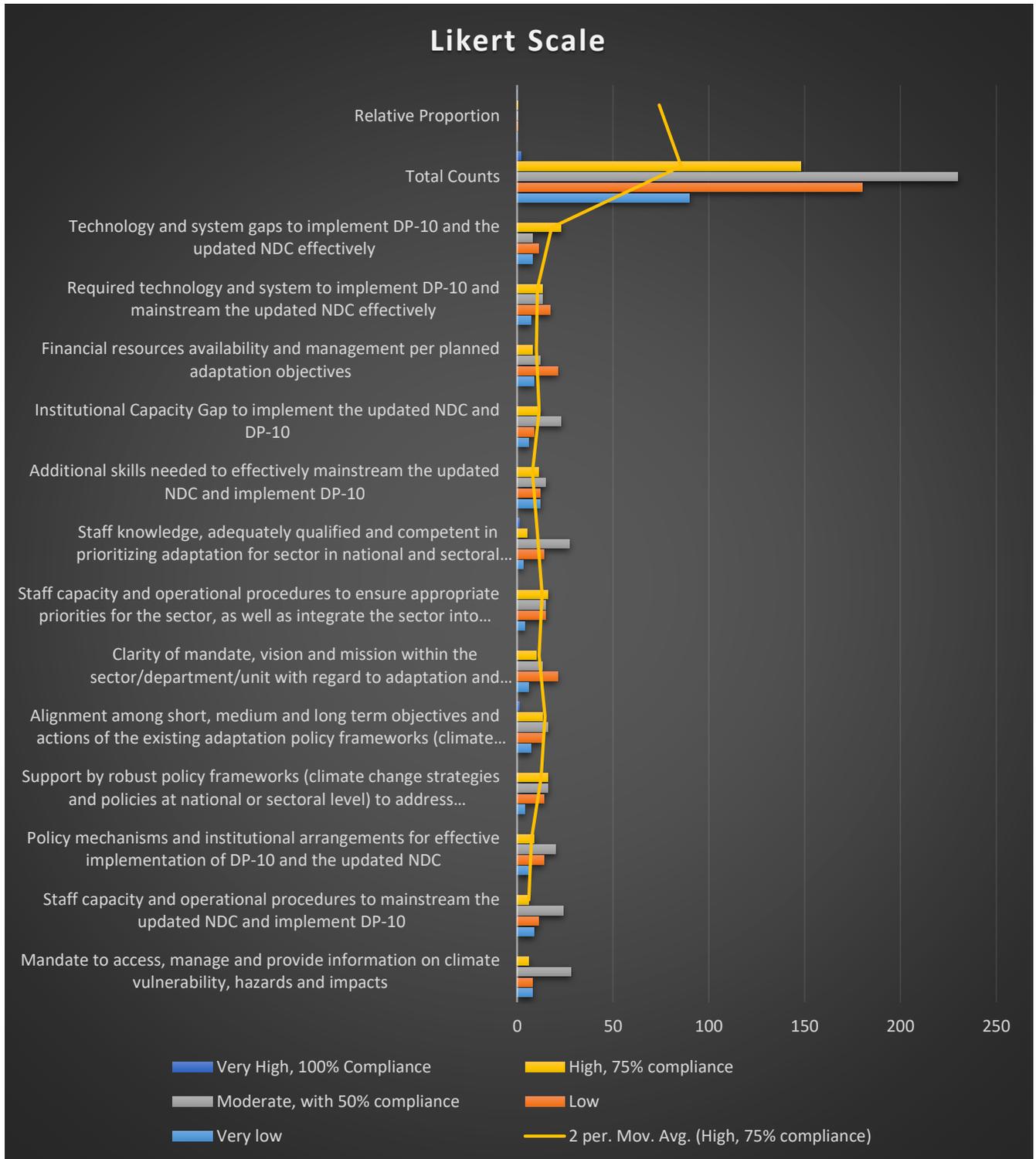
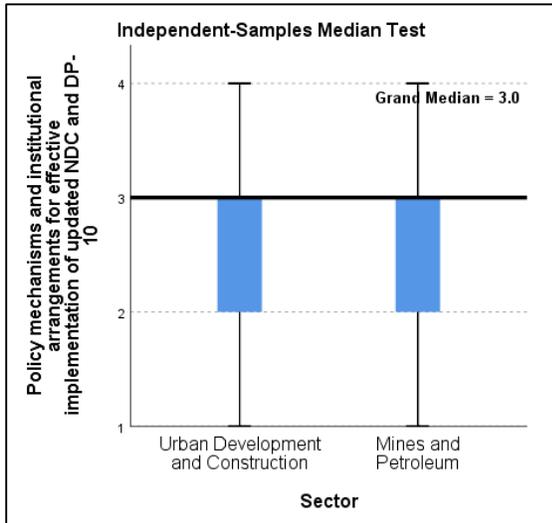


Figure 11: Likert scale

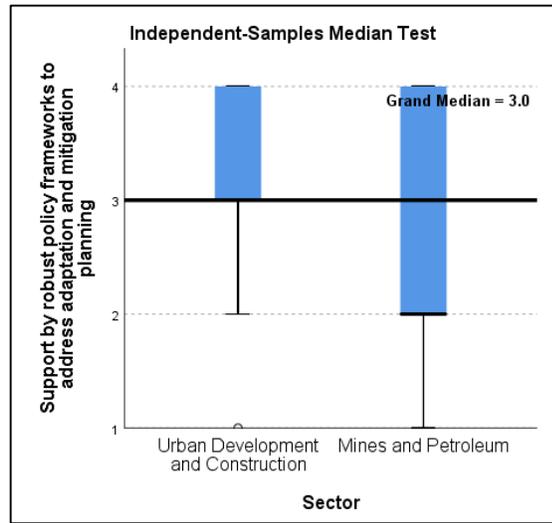
4.2.1.4. Non-Parametric Analysis

The purpose of the independent variable analysis was not to make comparisons between the two sectors (Urban Development & Construction and Mines & Petroleum), but for appraisal of the capacity gaps and requirements that respondents reflected for provided criteria questions. Even more, the independent test analysis with the hypothesis that no dependency exists between the two sectors statistically accepted. Accordingly, the 13 ordinal variables, and one nominal cases weighting variable, were systematically organized to be weighted by the target sectors and analyzed using median test. The estimated grand median value (2 and 3) revealed the aggregate average frequencies that respondents answered for each of the respective questions.

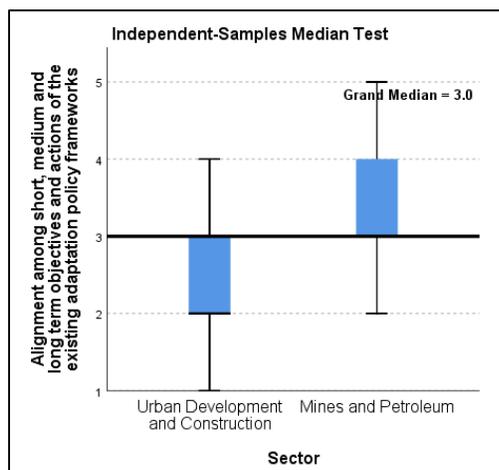
In this regard, the non-parametric analysis was conducted for quantitative datasets with a focus on critical factors having significance contribution on the two sectors meant to institutional capacity development priority tasks towards addressing greenhouse gas emissions reduction within the 2020-2030 year period. More importantly, the assessment and analysis tried to target on major limiting factors and degree of impact to implement the updated NDC and sectoral DP-10.



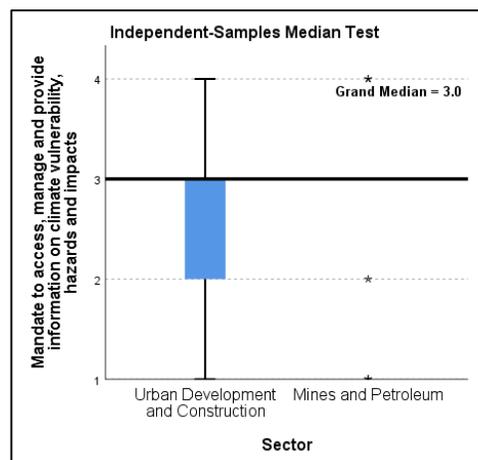
a)



b)



c)



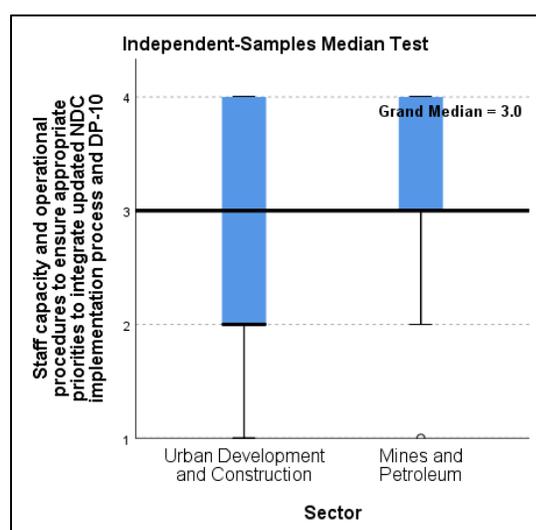
d)

Figure 12: Sectoral analysis

Based on the analysis result the Urban Development & Construction sector has a robust policy support with some gaps to implement the updated NDC and DP-10. The Mines & Petroleum sector lacks policy support for the updated NDC and DP-10 implementation. In this regard much effort is needed to strengthen the Mines & Petroleum sector for effective implementation.



a)



b)

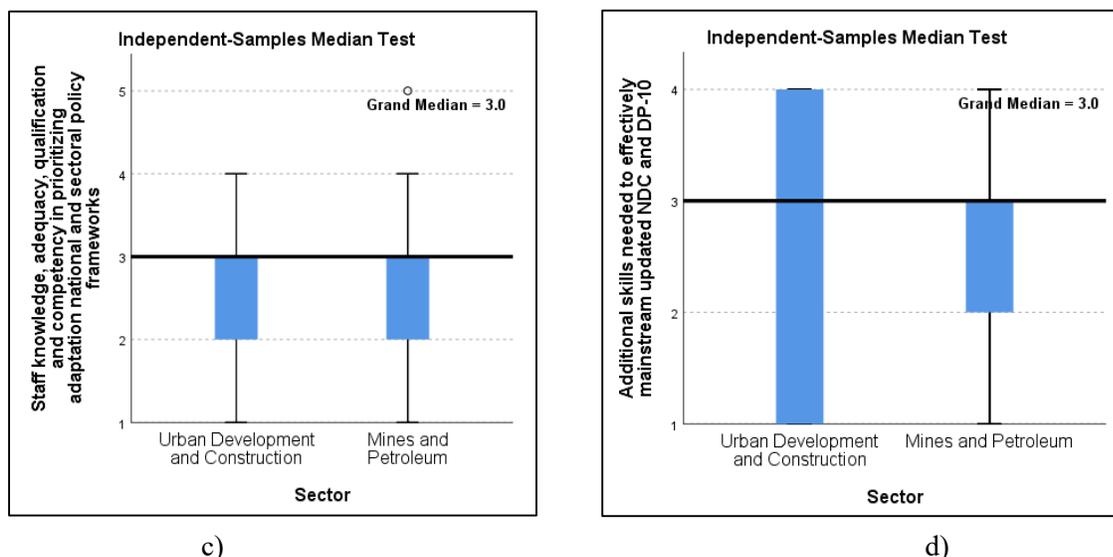


Figure 13: Staff knowledge, skill and competency

In terms of clarity of mandate, mission and vision regarding to adaptation and mitigation planning there is a gap in the two sectors which needs to be addressed. The gap in the Mines & Petroleum sector regarding staff capacity and operational procedure to insure appropriate priorities to the updated NDC and DP-10 of the sector is pronounced. The Urban Development & Construction sector also has moderate gap in this regard. There is also a gap in knowledge and skill in both sectors for prioritizing adaptation for NDC implementation. Therefore additional knowledge and skill is required to empower the staffs for better implementation as shown on (figure 14 a-d) above.

As shown on (figure 15a) below the institutional capacity gap is more intensified in the Mines & Petroleum sector. The Urban Development & Construction sector also has institutional capacity gaps which are below the grand median. There is also a gap on the financial resource and management capacity per planned adaptation objectives which is above the grand median as shown on (figure 15b). Based on the Independent-Sample Median Test result the gap on technology and system to implement the sectoral DP-10 and he updated NDC is more inflated in the Mines & Petroleum sector. The Urban Development & Construction sector also has a gap that need to be addressed regarding technology and system as shown on (figure 15c).

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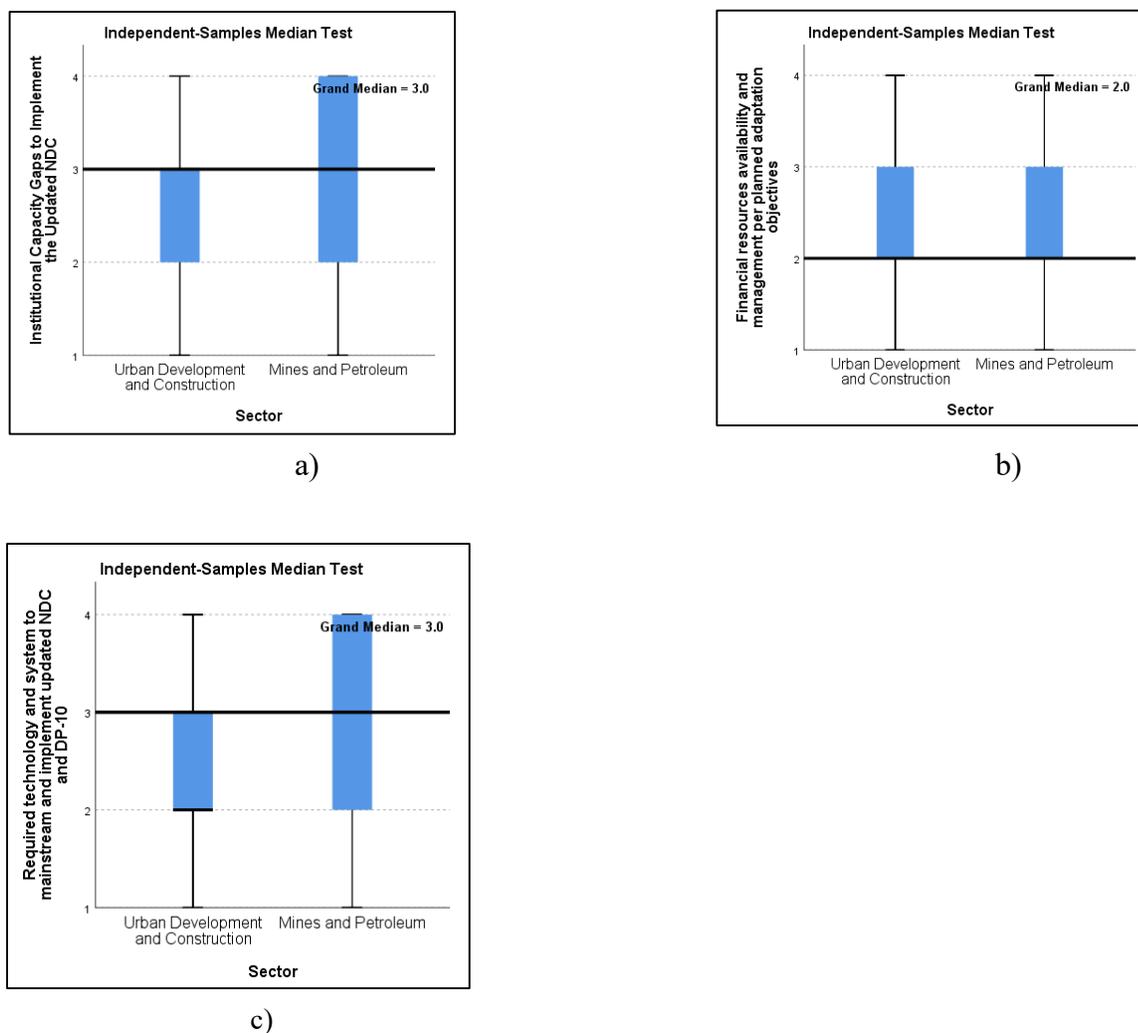


Figure 14: Institutional capacity gaps

4.2.1.5. Stakeholder Analysis

The stakeholder analysis was conducted to identify the role, level of support and limitation of key development partners for the Urban Development & Construction and Mines & Petroleum sectors.

Table 9: Role of stakeholders to implement the updated NDC

Role of stakeholders	Frequency	Percent	Cumulative Percent
Technical support	7	41.17	41.17
Budget support	6	35.30	76.47
Both	4	23.53	100.00
Total	17	100.00	

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Table 10: Coordination and synergy of stakeholders for NDC implementation

Rating scale	Frequency	Percent	Cumulative Percent
Low	35	81.4	81.4
Moderate	8	18.6	100.0
Total	43	100.0	

Table 11: Stakeholders role, level of support and limitation

No	Stakeholder	Role for NDC	Level of support	Limitation
1	EFCCC	Technical support/implementation	Moderate	Gap on MRV, CRGE forum not active, Gap on Coordination and collaboration, Quality Control (QC) and Quality Assurance (QA), limitation on intervention for the previously assessed capacity gaps, no consistent structure from federal-regional-woreda levels
2	MoF	Financial support	Moderate	Finance budget tracking, Financial support
3	PDC	Technical support/planning	Low	Structural gap for planning and M&E, Gap on budget coding for CRGE/NDC
4	Civil Service Commission	Organizational arrangement	Low	Gap on institutional arrangement, Lack of awareness about planning and M&E, Gap on job grading for planning and M&E, Communication gap, view planning as support function
5	Central Statistical Agency	Data source	Low	Inconsistent and fallacy data/report
6	UNDP	Financial and Technical support/Capacity development	Moderate to High	By pass regions and implement at woreda level
7	World Bank	Financial and Technical/training support, CRGE/NDC implementation support	Moderate	Intervene only on selected matters as they see fit to support
8	WRI	Updating the green economy model, conducting research on climate change issues	Moderate	Challenge to access the research outputs

9	EU	Financial and Technical support i.e – Biennial Update Report and National Communication preparation, GHG inventory compilation, /MRV system establishment, Mitigation and Adaptation intervention	Moderate to High	Intervene only on selected matters as they see fit to support
10	SNV	Financial support/energy sector	Moderate	Intervene only on selected matters as they see fit to support
11	GIZ	Financial and Technical support/Solid waste management	Moderate	Intervene only on selected matters as they see fit to support
12	UN-Habitat	Financial support/Urban Development & Construction, Greenery	Moderate to High	Intervene only on selected matters as they see fit to support
13	Universities and Research Centers	Enhancing knowledge and skill/Capacity building	Low	Limitation on production of qualified experts, gap on research and development for climate change issues
14	Micro and Small Enterprises	GHG emission reduction	Low	Awareness gap, financial limitation, market linkage loop
15	Private sectors	GHG emission reduction	Low	Poor involvement for GHG reduction

4.2.1.6. Reliability and Validity Test

In this case, both the qualitative and quantitative datasets were first transformed using log-function tab of the SPSS analysis header to comprehend consistency and commonality of variables. Accordingly, reliability test was conducted for priority factors and decision on the significance of raised questions or concerns about the need to address institutional capacity gaps for the two sectors.

Based on qualitative data reliability test result, Kappa's coefficient is 0.102 using Fleiss Multirater Test (significance at $\alpha = 0.000$, tested at $\alpha = 0.05$). Meanwhile, similar tests from quantitative data analysis revealed that the reliability statistics value coefficient for Kappa's α 0.106 using Fleiss Multirater Test (significance at $\alpha = 0.000$, tested at $\alpha = 0.05$). Therefore, the quantitative and qualitative data analysis result is credible and usable for the two sectors.

Table 12: Reliability test for qualitative data analysis using Kappa coefficient

Overall Agreement ^a						
	Kappa	Asymptotic			Asymptotic 95% Confidence Interval	
		Standard Error	z	Sig.	Lower Bound	Upper Bound
Overall Agreement	0.102	0.028	3.568	0.000	0.100	0.103

a. Sample data contains 43 effective subjects and 6 raters.

Table 13: Reliability test for quantitative data analysis using Kappa coefficient

Overall Agreement ^a						
	Kappa	Asymptotic			Asymptotic 95% Confidence Interval	
		Standard Error	z	Sig.	Lower Bound	Upper Bound
Overall Agreement	0.106	0.010	10.176	0.000	0.105	0.107

a. Sample data contains 50 effective subjects and 12 raters.

4.2.1.7. Summary of key findings

Based on the situational analysis, qualitative and quantitative data analysis and institutional capacity gap assessment the key findings are summarized below.

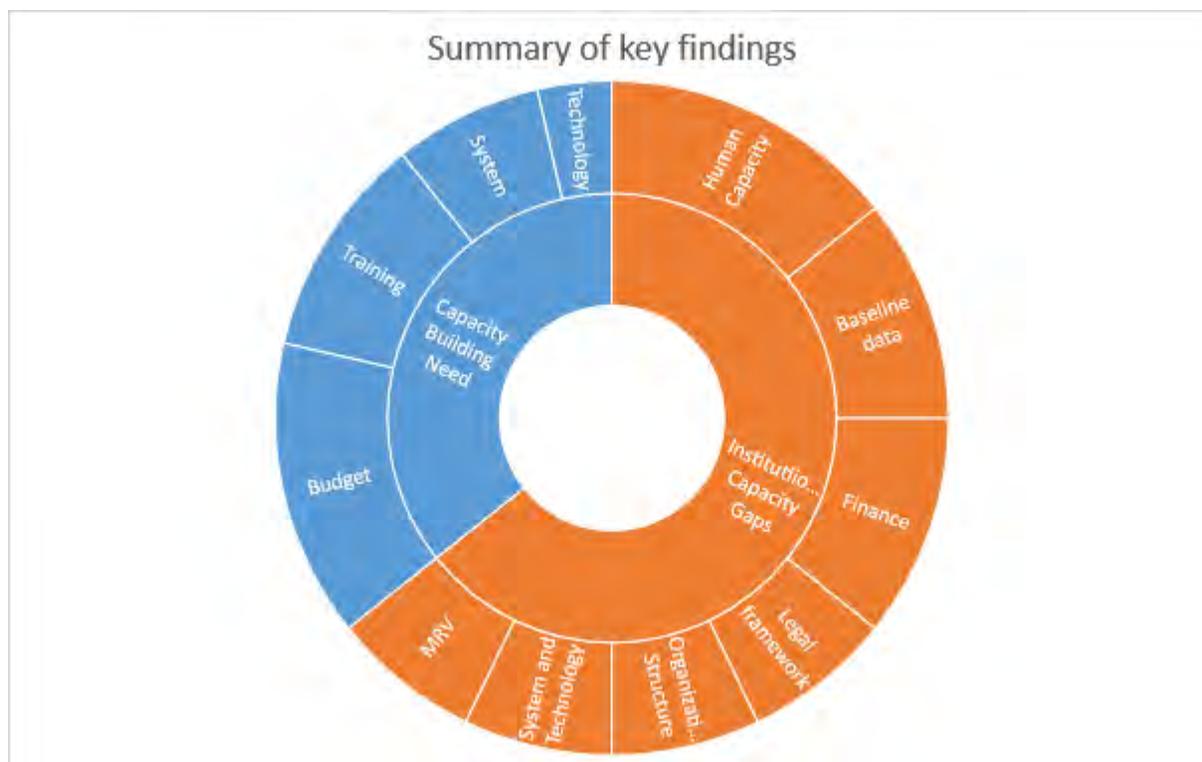


Figure 15: Result Summary

4.2.2. Urban Development & Construction Sector

The institutional capacity gap assessment and the review process has helped to identify several important issues and recurring themes that were explicitly expressed as a need or a constraint to the successful implementation of the updated NDC and DP-10 in the Urban Development & Construction sector. Implementation capacity (knowledge and skill gap), financial resource limitations (from external and internal sources), MRV (gap on measuring GHG emission, reporting and verification) and unavailability of baseline GHG emission data were the top constraints/gaps and needs identified to be addressed by the sector for effective NDC and DP-10 implementation. The detail analysis presented below also shows to what extent sectors consider each gap to be important and urgent with respect to successful NDC and DP-10 implementation. The degree of importance and level of urgency is an assessment based on the blend between the survey responses and the interpretation of the content in the sectors NDC mainstreamed in DP-10 and other documents.

Implementation Capacity (human resources related including knowledge and skill gaps) building needs: Based on the institutional capacity gap analysis result, implementation capacity building-related needs constitute key barrier that the sector is facing to implement the updated NDC and DP-10 successfully. Capacity building needs can relate to tools and methodologies required, capacity related to the development and management of GHG emissions inventories at sectoral level, and related to the knowledge, skill and training required to enhance the capacity of human resources at all level. The result showed that key department experts have insufficient knowledge and skill to undertake climate risk and vulnerability assessments, or to handle mitigation and adaptation studies, limited knowledge, and skill in designing adaptation and mitigation projects, as well as not having acquired a solid proficiency in the NDC implementation. Therefore, it has been expressed that capacity building is essential to undertaking climate readiness programme activities and as well as to implement Nationally Appropriate Mitigation Actions (NAMAs) and National Adaptation Programme of Actions (NAPAs) and other national flagship projects in relation to climate change adaptation and mitigation.

Financial resources limitation: Availability of financial resource is a predominant requirement for in the process of effective NDC and DP-10 implementation. The lack of sufficient financial resources is almost universally expressed as a barrier to implementing the sectors' DP-10 and

NDC. It has been witnessed that the specific financial resources allocated for NDC implementation at sectoral level is inadequate except the annual sectoral budget allocated for other activities. Even though specific financial resource is not allocated for NDC, the sector considers NDC as part of the sector plan and tried to mainstream it. In fact, the requirement for external financial support is often explicitly expressed by the sector as a necessary condition for successful NDC implementation not only by the sector but also nationally. According to the information from the target sector, senior experts and management bodies it is explicitly stated that adaptation efforts should be exclusively financed with international and national supports. The review showed that the annual sector budget is limited which hinders the sector to implement both mitigation and adaptation efforts. The finding from the review shows that there is the potential of attracting international climate finance, private sector finance, bilateral and multilateral donor climate finance and others. However, due to many capacity and other gaps and commitment, the external and internal financial support has been found to be limited.

Of course, at national level, there are several climate financial supports from different sources. However, the financial support is focused on few sectors like EFCCC and others. Often the sector mentioned external and internal climate finance as a required resource to implement NDC targets and plans as part of their wider financial requirements.

MRV (Measuring, Reporting and Verification): Based on the institutional capacity gap assessment measuring, reporting and verification is a key challenge for the sector. It is related to collecting GHG emission data, producing quality report and verification process. In addition there is still gap on Baseline data for sectoral GHG emission. In this regard the sector has a gap due to knowledge and skill limitation of experts and unavailability of a responsible professional or unit for MRV. Technical support is also required from EFCCC and other stakeholders for better performance on MRV. Based on the feedback from the sector the main gaps on MRV are attributed to measuring GHG emission, data verification, data quality assurance/control techniques and IPCC application of the sector. This calls for establishment of MRV unit in the sector through revision of the existing organizational structure aligned with the CRGE facility structural arrangement.

Capacity limitation to access and utilize available climate data: Generally, climate data is highly valuable to pass informed decision and climate change management including disaster forecast at national level. During the assessment it is found that there is still a limitation to access

and utilize available climate data at sectoral level. It is often linked to capacity building; accessing the available climate data also constitutes a barrier to deploying effective and targeted climate action at sectoral level. During the assessment it was able to recognize the gap in the sector's NDC profile and related data management system, which explicitly shows that there is a gap in terms of reliable, robust climate data as well as all statistical data relating to climate change and natural resource management in general which is considered as a distinct barrier to climate adaptation efforts of the sector. In the case of the Urban Development & Construction sector, capturing up-to-date climate data is considered as a critical success factors to overcome information barriers in its climate adaptation effort as well as NDC and DP-10 implementation.

IC and Performance Auditing System Gap: The system gap in the Urban Development & Construction sector is attributed as lack of database management and performance auditing systems. There is a need to establish and/or strengthen the IC unit in the sector for better data base management and quality report production. The performance of the sector in view of implementation of the NDC and DP-10 needs to be evaluated frequently and this needs establishing and/or strengthening the performance auditing system.

Technology Gaps for Climate Change Adaptation and Mitigation: To effectively implement the updated NDC and DP-10, it has been explicitly mentioned that technology requirements are high and there is a huge gap between the requirement and the available technology at the sector. According to the information from the sector, technology related needs range from soft to hard solutions and is often linked to capacity building gaps and requirements of the sector. Like financial needs, most KII participants and decision makers also state technology development, transfer and support needs as central and integral elements for successful implementation of the updated NDC. Despite an overwhelming majority of respondents in the sector expressed technology as integral to support the effective implementation of the updated NDC and sectoral DP-10. In addition to this, even the KIs in the sector were unable to mention what type of technology is required for NDC implementation that means it needs further assessment to identify relevant technology. There is also limitation on utilization of green technology. In fact there is progress in identifying appropriate technology and support for utilization from the EFCCC but it has to be strengthened and should participate the sector to solve the technology issues.

Legal framework and legislation: Climate change policy, strategy and related legislative frameworks and bylaws have also been identified as determinant factors influencing successful NDC implementation and climate action at sectoral level. There is better legal framework in the sector but there are some issues that require attention and amendment in this regard. For instance (513/99 EP) legislation on solid waste management is revised but not approved since the last 4 years. Urban greenery and solid waste proclamations are not yet approved. The following are also existing gaps related to legal framework: lack of urban containment policy and lack of minimum standard for sanitary provisions.

Organizational Structure: Generally the organizational structure of the Urban Development & Construction sector is fine regarding NDC and DP-10 implementation. But as we are looking for upgrading of the performance of the sector for the next 10 years the structure needs revision. For instance the organizational structure does not involve Measuring, Reporting and Verification (MRV) unit, in addition the CRGE Bureau does not consist Construction and Housing directorates and these are key gap which needs to be addressed. For better implementation of the updated NDC and DP-10 consistent organizational structure is needed from Federal to Regional and Woreda levels that are aligned with the EFCCC structure. In this regard the GHG Emission Reduction Verification Directorate, EFCCC, is working on establishing MRV unit in the Urban Development & Construction Sector and is giving technical support. At this stage it is recommended to assign MRV expert until the unit is established to measure the sectoral GHG emission and produce quality report under close supervision of the GHG Emission Reduction Verification Directorate in EFCCC.

Table 14: Identified and Prioritized Institutional Capacity Gaps in the Urban Development & Construction Sector

Gaps/Challenges	Priority for NDC	Degree of Importance	Level of Urgency
Implementation Capacity (human resources related including knowledge and skill gaps)	1	Extremely Important	Very Urgent
Financial limitation	2	Extremely Important	Very Urgent
MRV (measuring, reporting and verification), Lack of baseline data for sectoral GHG emission	3	Extremely Important	Very Urgent

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Limited capacity to access and utilize available climate data	4	Highly Important	Very Urgent
IC and Performance Auditing System	5	Highly Important	Urgent
Technology gaps for Climate Change Adaptation and Mitigation	6	Highly Important	Urgent
Legal framework and legislation specific to the sector	7	Important	Urgent
Organizational Structure (mandate and role)	8	Important	Urgent

Based on the multi response analysis result the following chart summarizes the sector specific key gaps and their importance value index. The importance value index is determined by the findings of the institutional capacity gap assessment and prioritized with the consent of the sector.

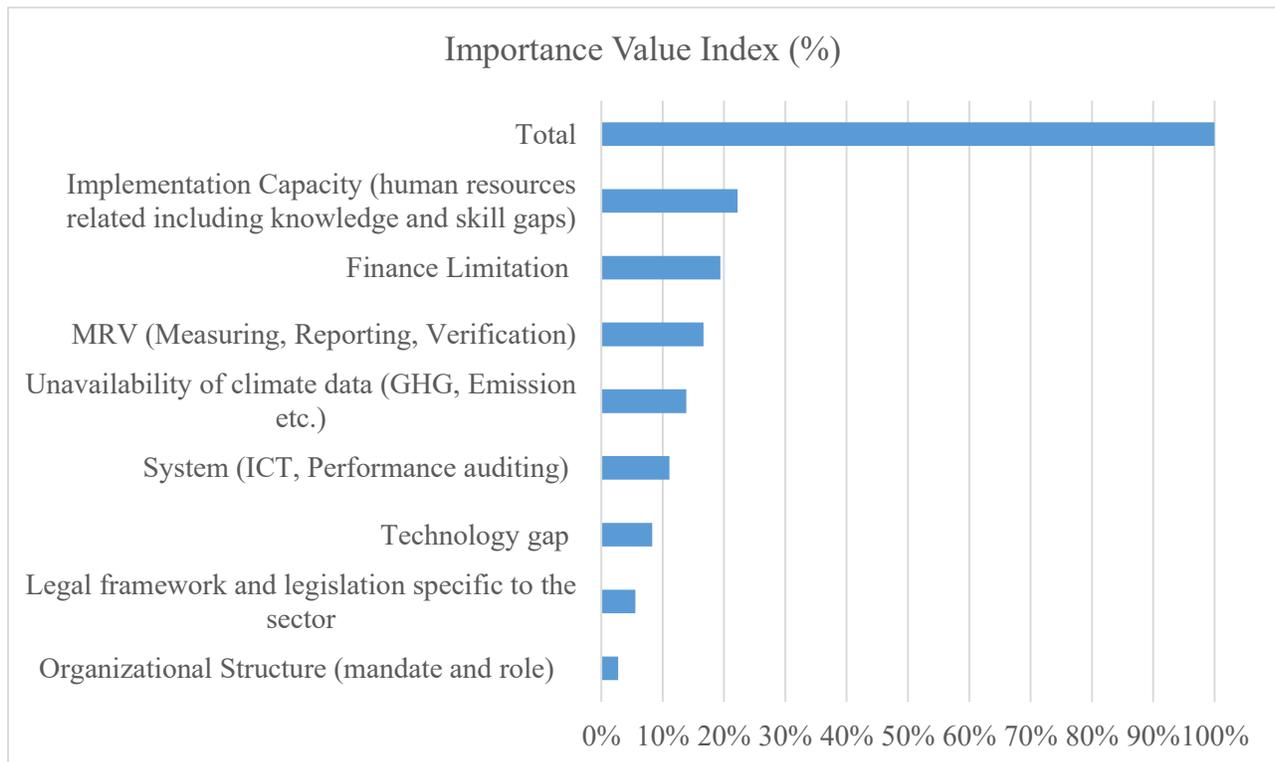


Figure 16: Relative proportion of the identified gaps

4.2.3. Mines & Petroleum Sector

The institutional capacity gap assessment and the review process has helped to identify several important issues and recurring themes that were explicitly expressed as a need or a constraint for the successful implementation of the updated NDC and DP-10 in the Mines & Petroleum sector. Sectoral arrangement and organizational structure; Policy, legal framework & legislation; Implementation capacity (knowledge and skill gap); Financial resource limitations (from external and internal sources) and MRV (measuring, reporting & verification) gaps were the top constraints/gaps and needs identified to be addressed for effective NDC implementation. The detail analysis presented below also shows to what extent the sector consider each gaps to be important and urgent with respect to successful NDC and DP-10 implementation. The degree of importance and level of urgency is an assessment based on the blend between the survey responses and the interpretation of the content in the updated NDC mainstreamed in the sectors' DP-10 and other documents. During the assessment it was learnt that the sector was overlooked regarding CRGE and the GHG emission of the sector was being measured in the industry sector. Now the sector is identified as a potential for GHG emission reduction and more focus is given at national level for the Mines & Petroleum sector. High increments of coal production and consumption, Natural gas production and consumption, Natural gas flaring and venting due to Petroleum exploration well test and production, Degradation of natural forest land due to an increment of minerals production (artisanal, small scale and large scale levels) makes the sector one of the pillar sectors for NDC implementation. It is also clearly outlined in the national DP-10 that the main focus areas of the mining and petroleum development plan are increasing foreign exchange and domestic revenue earnings; increasing investment in the subsector; promoting the expansion of industries that add value; and creating job opportunities. The objectives of mining and petroleum development plan are to identify the country's mineral and petroleum resources and, by developing and ensuring equitable utilization, to contribute to the structural transformation of the economy, as well as raising the national wealth. And one of the targets are to increase the number of manufacturing industries that add value to precious and semi-precious minerals from 30 to 130; the number of those that produce construction inputs from 1,500 to 6,500; and the number of those that produce minerals that serve as inputs for the production of chemicals and petrochemicals from 100 to 1,100 (PDC 2020). In order to meet its objective and implement the sectoral DP-10, the Mining &

Petroleum sector needs to fill the identified gaps and tackle key challenges and constraints so that the sector's development is climate proofed.

Sectoral Arrangement and Organizational Structure: Generally the sectoral arrangement and organizational structure of the Mines & Petroleum sector is weak regarding NDC and DP-10 implementation. According to environmental unit establishment proclamation 295/2002 currently environment and community development directorate is functional with expert compositions of environmentalists, chemists, sociologists and health and safety experts. Currently there is no CRGE unit, team or even expert in the sector. There is no Measuring, Reporting and Verification (MRV) unit, team or even expert. Due to these the CRGE is being done by delegation of the above experts. Therefore, the structure need to be aligned with the EFCCC starting from Federal to Regional and Woreda levels. As we are looking for upgrading the performance of the sector for the next 10 years the sectoral arrangement and organizational structure needs revision. As a matter of fact, even the revised structure is not approved yet. In the Mines & Petroleum sector consistent organizational structure is needed from Federal to Regional and Woreda level for effective implementation of the updated NDC and DP-10. Regarding to MRV, the GHG Emission Reduction and Verification Directorate at EFCCC, is working on establishing MRV unit in the Mines & Petroleum sector and is giving technical support. At this stage it is recommended to assign MRV expert until the unit is established to measure the sectoral GHG emission and produce quality report under close supervision of the GHG Emission Reduction and Verification Directorate in EFCCC. The sector should also establish CRGE unit in line with the EFCCC structure.

Policy, Legal Framework and Legislation of the sector and CRGE emphasis gap: Climate change policy, strategy and related legislative frameworks and laws have also been identified as determinant factors influencing successful NDC implementation and climate action at sectoral level. Both mineral and petroleum policies are under the draft and they both gave greater attention for CRGE even if they are not yet approved. Mineral Operation Proclamation 678/2010 and Regulation 423/2018 gave emphasis on environmental protection and community safety on sector developments and also restrict to avoid hazardous chemicals not to be used like mercury. But the sectoral legislatives do not indicate clearly CRGE mainstreaming across sector development and even do not recommend the regions and downwards need to establish environmental organs across

the sector. Cabinet establishment proclamation 1097/2018 omitted the responsibilities of the sector to mainstream environmental safeguards across the sector development and the assigned higher officials afterwards hesitate to take environment and social safeguard activities across the sector and due to this the relation with regions and downwards sectoral environment and social safeguard has become limited. Therefore the sector need strong policy and legal support for effective implementation of the updated NDC and sectoral DP-10.

Implementation Capacity (human resources related including knowledge and skill gaps)

building needs: According to the information from the target sector, implementation capacity building-related needs constitute another key barrier that the sector is facing to implement the updated NDC and DP-10 successfully. Capacity building needs can relate to tools and methodologies required, capacity related to the development and management of GHG emissions inventories at sectoral level, and related to the knowledge, skill and training required to enhance the capacity of human resources at all level. Based on the assessment, key department experts have limited knowledge, and skill in designing adaptation and mitigation projects, as well as not having acquired a solid proficiency in the NDC implementation. The gap on sector specific CRGE planning, implementation and monitoring & evaluation is recognized as a key constraint for the updated NDC and DP-10 implementation in the Mines & Petroleum sector.

Therefore, it has been expressed that capacity building is essential to undertaking climate readiness programme activities and as well as to implement Nationally Appropriate Mitigation Actions (NAMAs) and other national flagship projects in relation to climate change adaptation and mitigation.

Financial resources limitation: Availability of financial resource is a predominant requirement for in the process of effective NDC and DP-10 implementation. The lack of sufficient financial resources is almost universally expressed as a barrier to implementing the sectors' DP-10 and the updated NDC. It has been witnessed that the specific financial resources allocated for NDC implementation at sectoral level is inadequate except the annual sectoral budget allocated for other activities. Even though specific financial resource is not allocated for NDC, the sector considers NDC as part of the sector plan and tried to mainstream it in the sector's DP-10. In fact, the requirement for external financial support is often explicitly expressed by the sector as a necessary condition for successful NDC implementation not only by the sector but also nationally. According

to the information from the target sector, most of the experts and management bodies explicitly stated that adaptation efforts should be exclusively financed with international and national supports. The review showed that the annual sectoral budget is limited which hinders the sector to implement both mitigation and adaptation efforts. The finding from the assessment shows that there is the potential of attracting international climate finance, private sector finance, bilateral and multilateral donor climate finance and others. However, due to many capacity and other gaps and commitment, the external and internal financial support has been found limited.

In the Mines & Petroleum sector, Finance is needed for sector development and abandoned land rehabilitation. Especially within the sector artisanal miners' abandoned land is the most critical problem. Therefore in order to conduct rehabilitation work financial resource is required.

The second finance importance in the sector is finance for production of biofuels to mitigate the GHG emission by fossil fuels/ fossil oils and coal for cooking. It also can save hard currency for fossil oil import.

Thirdly finance is important for the sector in order to create awareness, enhance knowledge and skill on the CRGE/NDC across the sector from federal, regional, woreda to kebele levels.

Of course, at national level, there are several climate financial supports from different sources. However, the financial support is focused on few sectors like EFCCC and others. Often the sector mentioned external and internal climate finance as a required resource to implement NDC targets and plans as part of their wider financial requirements.

MRV (Measuring, Reporting and Verification): Based on the institutional capacity gap assessment measuring, reporting and verification is a key challenge for the sector. It is related to collecting GHG emission data, producing quality report and verification process. In addition there is still gap on Baseline data for sectoral GHG emission. In this regard the sector has a gap due to knowledge and skill limitation of experts and unavailability of a responsible unit and/or professional for MRV. Technical support is also required from EFCCC and other stakeholders for better performance on MRV. Based on the feedback from the sector the main gaps on MRV are attributed to measuring GHG emission, data verification, data quality assurance/control techniques and IPCC application of the sector. Therefore the sector needs to establish MRV unit and capacity

building trainings shall be organized by EFCCC and other stakeholders in order to fill the gaps observed on MRV.

Capacity limitation to access and utilize available climate data: Generally, climate data is highly valuable to pass informed decision and climate change management including disaster forecast at national level. During the assessment it is found that there is still a limitation to access and utilize available climate data at sectoral level. It is often linked to capacity building; accessing the available climate data also constitutes a barrier to deploying effective and targeted climate action at sectoral level. During the assessment it was able to recognize the gap in the sector's NDC profile and related data management system, which explicitly shows that there is a gap in terms of reliable, robust climate data as well as all statistical data relating to climate change and natural resource management in general which is considered as a distinct barrier to climate adaptation efforts of the sector. In the case of the Mines & Petroleum sector, capturing up-to-date climate data is considered as a critical success factor to overcome information barriers in its climate adaptation effort as well as NDC and DP-10 implementation.

Technology Gaps for Climate Change Adaptation and Mitigation: To effectively implement the updated NDC and DP-10, it has been explicitly mentioned that technology requirements are high and there is a huge gap between the requirement and the available technology at the sector. According to the information from the sector, technology related needs range from soft to hard solutions and are often linked to capacity building gaps and requirements of the sector. Like financial needs, most expert participants and decision makers also stated technology development, transfer and support needs as central and integral elements for successful implementation of the updated NDC. In spite of, an overwhelming majority of respondents in the sector expressed technology as integral to support the effective implementation of the sectoral DP-10 and the updated NDC. In addition to this, even the key informants in the sector were unable to mention what type of technology is required for NDC implementation that means it needs further assessment to identify relevant technology. In fact there is progress in identifying appropriate technology and support for utilization from the EFCCC but it has to be strengthened and should participate the sector to solve the technology issues.

IC and Performance Auditing System Gap: The system gap in the Mines & Petroleum sector is attributed as lack of data base management, knowledge management and performance auditing

system. There is a need to establish and/or strengthen the IC unit in the sector for better data base management and quality report production. The performance of the sector in view of implementation of the updated NDC and DP-10 needs to be evaluated frequently and this needs establishing and/or strengthening the performance auditing system.

Unclear Role and Function of the Mines & Petroleum Sector for NDC: The sector was overlooked in the CRGE and even the GHG emission of the Mines & Petroleum sector was measured in the Industry sector. Due to this the sector was unable to outline its role and function in the CRGE/NDC implementation. Of course now the Mines & Petroleum sector has been identified as one of the potential areas in the country for GHG emission reduction. Therefore the role and function of the sector towards NDC implementation and its responsibility should be stated clearly to enhance the sectors implementation.

Awareness gap on CRGE/NDC and lack of commitment (higher officials): The high official turnover in the sector created a gap on knowledge management and commitment on CRGE/NDC implementation. Five ministers were exchanged during the last five years and most of them have a key gap on awareness about the CRGE/NDC. Therefore awareness should be created for higher officials about the updated NDC to enhance their commitment for better implementation.

Table 15: Identified and Prioritized Institutional Capacity Gaps for Mines & Petroleum Sector

Type of Gaps	Priority for NDC	Degree of Importance	Level of Urgency
Sectoral arrangement and Organizational Structure (mandate and role)	1	Extremely Important	Very urgent
Policy, Legal Framework and Legislation specific to the sector for CRGE/NDC implementation	2	Extremely Important	Very urgent
Implementation Capacity (human resources related including knowledge and skill gaps)	3	Extremely Important	Very urgent
Finance Limitation	4	Extremely Important	Very urgent
MRV (measuring, reporting and verification), Baseline data for sectoral GHG emission	5	Extremely Important	Very urgent
Limited capacity to access and utilize available climate data	6	Extremely Important	Very urgent

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Technology gaps for Climate Change Adaptation and Mitigation	7	Highly Important	Urgent
System (IC, Performance auditing)	8	Highly Important	Urgent
Unclear Role and Function of the Mines & Petroleum sector for NDC	9	Important	Urgent
Awareness gap on CRGE/NDC and lack of commitment (higher officials)	10	Important	Urgent

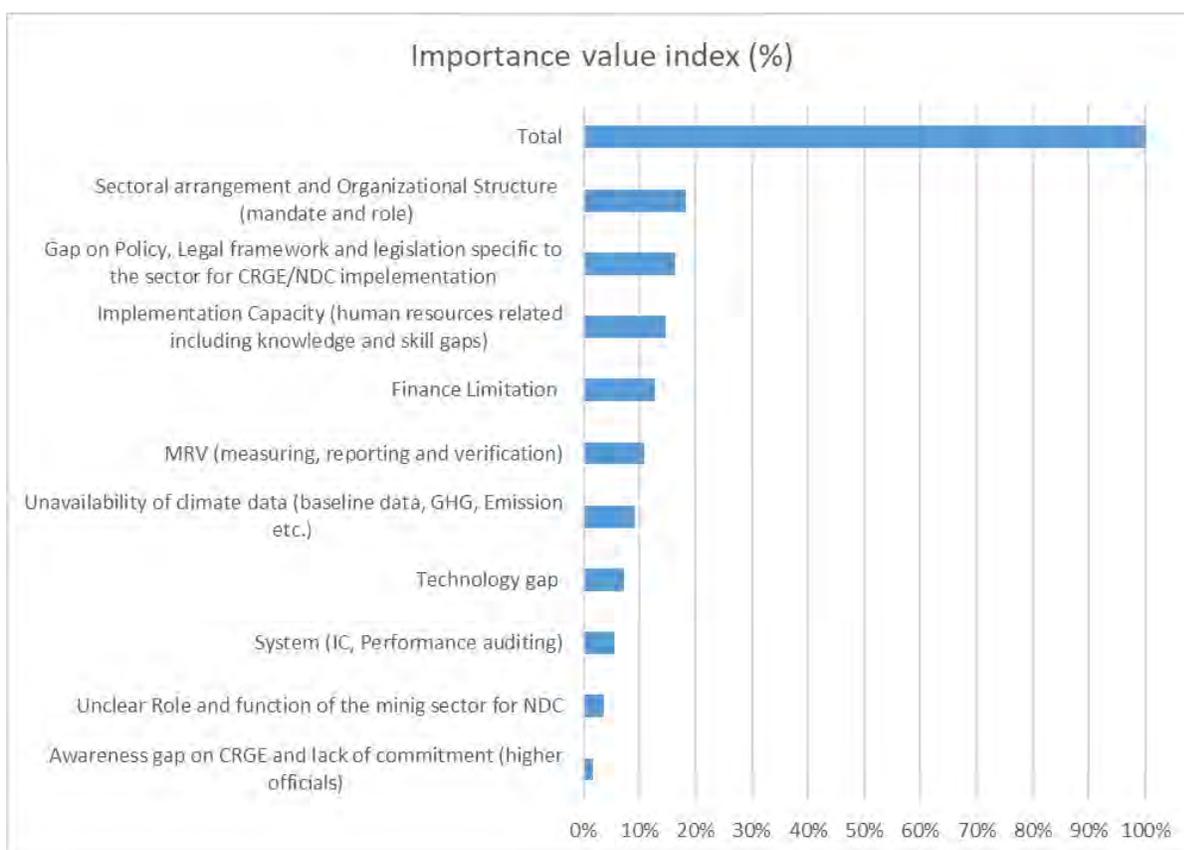


Figure 17: Relative proportion of the identified gaps

4.3. Key Challenges and Good Practices

The main challenges to implement the updated NDC and DP-10 in the two sectors are: Knowledge and Skill regarding to climate change adaptation, mitigation and MRV; identify and adopt appropriate Technology for adaptation and mitigation; install/enhance and utilize Information Communication system and Performance Auditing; Measuring sectoral GHG emission and MRV, Law enforcement to strengthen the sectors role and mandate for CRGE/NDC; Resource

mobilization; and Organizational Structure that is well aligned with the CRGE facility at federal to regional and woreda levels.

The future challenges and issues for a new urban agenda are clearly identified in 2014 by Ministry of Urban Development & Construction. The challenges include:

- Lack of urban containment policy
- Lack of diversity in energy use
- Solid waste management related issues
- Landfill management
- Lack of minimum standard for sanitary provisions
- Lack of adequate logistics for solid waste transportation
- Public awareness on greenery and solid waste
- Illegal settlement on urban greenery areas

In this regard efforts should be directed at strengthening of organizational and human resource capacities of urban local administrations. The development and implementation of a sustainable urban infrastructure and housing finance system should form as a critical element of future urban development implementation strategies¹⁴ (Ministry of Urban Development 2014).

Additional challenges which were previously identified in the Urban Development & Construction sector are solid waste emissions management, inadequate technical expertise in: landfill management and methane capturing, Technology transfer on hierarchy of integrated waste management, MRV and activity data generation, and Capacity gaps related to MRV (EFCCC 2019).

For the Mines & Petroleum sector the main challenges are lack of uniform structures from the ministry to its regional counterpart and the CRGE team is not established according to EFCCC guidance of structural arrangement, budget limitation, low level of attention given for CRGE by the top management, lack of adequately trained manpower, lack of baseline GHG emission to account current progress on GHG emission reductions from rehabilitation of abandoned mine sites, regulating all mining activities temporarily or permanently - artisanal and small-scale mining, lack

¹⁴ Ministry of Urban Development, Housing and Construction, 2014.

of experience in best practices in climate actions, reshuffling of higher officials and lack of continuous capacity building (EFCCC 2019).

Based on the recommendation of the Urban Development & Construction and Mines & Petroleum sectors field observation was made and lessons learnt are presented below.

The Dangote Cement Factory has good practice in the Mines & Petroleum sector. At the quarry site they use electricity to run the main crusher plant and to transport the crushed limestone through conveyer belt to the factory. The GHG emission at the quarry site is only due to utilization of dynamite to break the limestone rock mass and the dozers, excavators and trucks are also responsible for GHG emission. Currently the factory is transporting the crushed limestone to temporary sites since the conveyor at the main crushing site has been damaged due to landslide. Based on the discussion held at the factory with higher officials and technical staffs and field visit of the clinker production plant it is learnt that they are using various technology for energy efficiency. The factory has also planted GHG emission measuring equipment for MRV.

Regarding to the Urban Development & Construction sector the protected greenery areas (Parks) are exemplary for GHG emission reduction and sustaining the green legacy. A lot of work has been done like establishing nursery site, construction of earth dam to create artificial lake and planting indigenous and endangered species along road separators in Adama city. The movement to clean the city by organizing the society is also appreciated during the field visit.

The NAMA COMPOST project (UNDP Funded) site in Adama city is also another good practice to reduce the solid waste and prepare compost out of the waste by using Turner machine. The compost production shade enabled to protect the associations working from being affected by methane gas in comparison with when they were producing compost in open sites. It also is aiding the GHG emission reduction significantly. The project is also working on MRV system as learned from the discussion with the project manager at project office in Addis Ababa.

5. INSTITUTIONAL CAPACITY DEVELOPMENT ACTION PLAN

Previous capacity gap assessments conducted at national, regional and sectoral levels had outlined the need for continuous capacity building process to address the main challenges that are manifested at individual, system and organizational levels in order to strengthen the implementation capacity of development sectors that are pillar to achieve the CRGE/NDC goals and targets. The current institutional capacity gap and need assessment conducted in the Urban Development & Construction and Mines & Petroleum sectors also views need-based and systematic capacity development process as a key tool for addressing the existing and persistent institutional capacity gaps and constraints to enhance the implementation capacity of the two target sectors and stakeholders for successful intervention on climate change issues that are crucial for GHG emission reduction at sectoral and national levels.

Therefore, the institutional capacity development action plan is prepared based on the identified and prioritized capacity gaps of the two sectors. The action plan consists of activities, indicators and estimated budget with responsible and supportive organizations for the implementation.

This capacity building action plan is designed and developed to strengthen the Urban Development & Construction and Mines & Petroleum sectors by filling the key gaps and addressing the challenges observed at institutional/organizational, system and individual levels. For the successful implementation of the action plan the institutional arrangement of the CRGE facility from federal to regional and woreda levels and the experience obtained during the CRGE implementation at national and sectoral level is considered as an asset. However for effective implementation the CRGE structure should be established at regional and woreda levels in line with the EFCCC organizational structure.

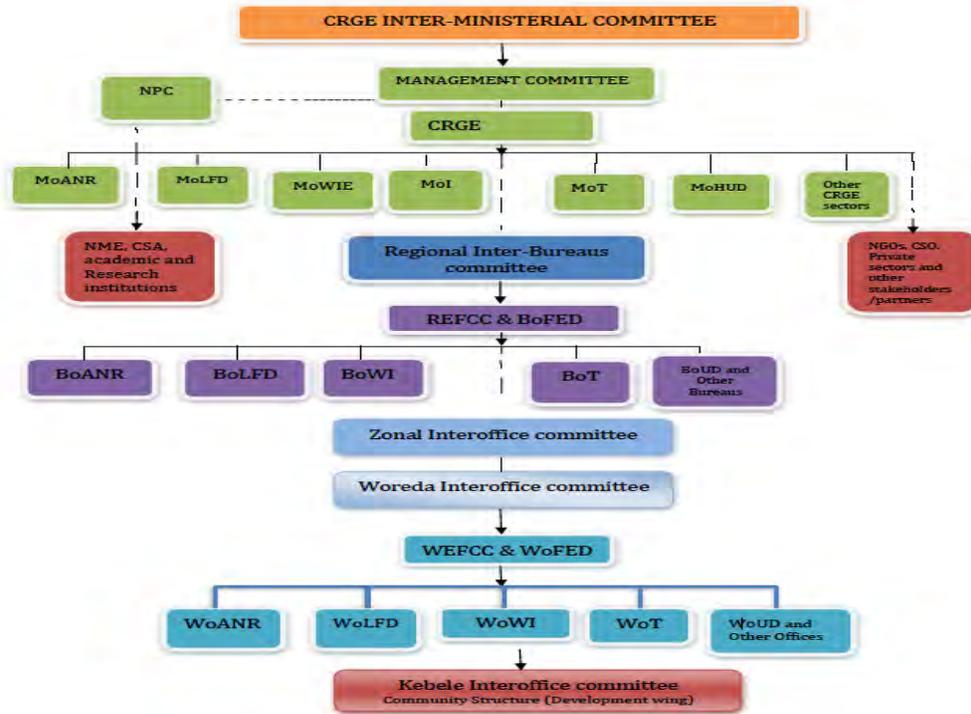


Figure 18: Institutional Arrangement of the CRGE facility

The activities and budget requirements presented in the institutional capacity building action plan are only indicative and the sectors can update/modify as necessary. The major assumptions considered during the preparation of the capacity building action plans for the two sectors are:

- The finance required for capacity building at institutional/organizational, system and individual levels will be obtained from MoF, Development partners and in long run private sectors.
- The sectors will get technical support from EFCCC, MoF, PDC and other stakeholders for the implementation.
- The sectors will own the capacity development action plan and are committed to intervene.
- The intervention at system level will require higher finance at the initial stage for installation and operational costs will be needed throughout the implementation period.
- The technology requirements for adaptation and mitigation measures to reduce sectoral GHG emissions will be needed throughout the implementation period.
- The capacity building trainings and awareness creation will be implemented at the initial stage and the sectors are expected to own the capacity building process.

5.1. Capacity Development Action Plan for Urban Development & Construction Sector

The key institutional capacity gaps were prioritized with the consent of the sector and the level of intervention was decided for further planning purpose. Based on this, a set of technical and functional capacities were considered, which are identified against the key capacity gaps to make this capacity building action plan implementable and operational. In this plan the capacity building intervention areas/ focus areas were addressed which are required at the individual, institutional and system levels.

Table 16: Capacity gaps prioritization for Urban Development & Construction Sector

System level	Institutional/organizational level	Individual level
<ul style="list-style-type: none"> • Coordination and partnership • Knowledge management system • Information communication, Database management, and Performance auditing system • Monitoring and Evaluation system • Need-based capacity development system 	<ul style="list-style-type: none"> • Organizational structure (mandate and role) • Financial resources management • Human resource management • Legal framework and legislation specific to the sector • Technology identification and utilization • Access and utilization of climate data • Measuring, Reporting and Verification (MRV), Sectoral GHG emission baseline data 	<ul style="list-style-type: none"> • Knowledge and skill • Competencies

5.1.1. Capacity Building Implementation and Structure of the Plan

The capacity building action plan should be aligned with the updated NDC and sectoral DP-10. Accordingly the institutional capacity development action plan will be implemented up to 2030, thus this capacity building plan will be started at the end of 2021.

The action plan will be implemented by the Urban Development & Construction sector and different departments with high level management strict follow up and managerial support. This capacity building plan can be implemented using the existing management structure and departments. Based on the existing organizational structure a list of directorates and/or units are directly responsible to implement the updated NDC and DP-10 as a sector and therefore this capacity building action plan can be implemented using these departments with vertical and horizontal coordination as an organization.

However, for ease of specific project management, MoUDC can establish special project management committee which has direct link with the updated NDC and DP-10 implementation and other related departments.

Even though the Urban Development & Construction sector and departments are expected to implement the updated NDC and 10 year sectoral development plan as a team with integrated and coordinated efforts, this capacity development action plan can better be implemented with the support and coordination from stakeholders and development partners. More specifically the plan can be implemented under **CRGE** bureau with strong support from other directorates. In addition, EFCCC and MoF are expected to play a significant role for the implementation of the institutional capacity building plan by providing technical and financial support.

5.1.2. Indicative Capacity Requirement for Urban Development & Construction Sector

The indicative capacity requirements for the updated NDC implementation was developed following a standard logical framework. The time frames for short-term, medium-term and long-term are assumed to be implemented within 0-3 year, 0-5 year and, 0-10 year period, respectively. The targets or desired outcomes and supportive organizations are also listed. The indicators and activities were further discussed with the sector and the action plan is updated so that it can help to strengthen the institutional capacity of the Urban Development & Construction sector for effective implementation of the updated NDC and sectoral DP-10.

Table 17: Indicative Capacity Requirement for NDC implementation

Capacity gaps and needs	Areas for improvement	Proposed CD interventions	Timeline			Targets or desired outcomes	Lead responsibility	Supporting organizations
			Short term	Medium term	Long term			
Implementation Capacity	Knowledge, skill and competency	<ul style="list-style-type: none"> Conduct need-based short-term trainings to experts Conduct refreshment training for experts on different topics Conduct long term trainings for staffs Conduct training for higher management on leadership, coordination, partnership, resource mobilization, negotiation Experience sharing 	X	X	X	<ul style="list-style-type: none"> Enhance staff knowledge, skill and competency Improve leadership skills for managers Increase awareness level on CRGE/NDC Improve implementation capacity for NDC 	MoUDC EFCCC MoF PDC	UNDP, UN agencies, WB, NGOs, Universities Research centers Private sectors
Finance	Financial sources, adequate budget, negotiation for finance tracking, financial management and resource	<ul style="list-style-type: none"> Preparation of resource mobilization plan Design bankable projects Conduct training on resource mobilization, project design and management, climate finance and other topics Negotiate with national government to allocate additional budget for capacity building 	X	X		<ul style="list-style-type: none"> Sectoral resource mobilization plan Financial resources mobilized Financial capacity enhanced Skill and knowledge of managers and finance experts enhanced for negotiation 	MoUDC EFCCC MoF PDC OFAGE	UNDP, GEF, UN agencies, WB, NGOs Global climate finance (GCF) Private sectors

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Capacity gaps and needs	Areas for improvement	Proposed CD interventions	Timeline			Targets or desired outcomes	Lead responsibility	Supporting organizations
			Short term	Medium term	Long term			
	mobilization	<ul style="list-style-type: none"> Technical training on negotiation skill for high level managers, senior finance experts Lobby donors on need for more stable funding patterns 			X	<ul style="list-style-type: none"> Managers awareness development on climate finance negotiation Increased funding resources Identify Bankable projects 		
Measuring, reporting and verification (MRV), baseline data for sectoral GHG emission	Establish MRV unit, staffing, knowledge and skill of experts, Collect baseline data for sectoral GHG emission, update GHG emission data	<ul style="list-style-type: none"> Hands on training for experts on IPCC software Develop standards for sectoral GHG emission data collection Enhance knowledge and skill of experts for MRV Produce quality report on climate change adaptation and mitigation Update the available baseline data 	X	X	X	<ul style="list-style-type: none"> Increase awareness on measuring, reporting and verification Enhance knowledge and skill competency for GHG emission data collection & report writing Sectoral GHG emission data collected/updated Properly manipulate the IPCC software Fully functional MRV setup aligned with EFCCC 	MoUDC EFCCC MoF ECSC PDC	UNDP, GEF, UN agencies, WB, NGOs Global climate finance (GCF) Private sectors Universities and research centers
Capacity to access and utilize available climate data	Mandate to access climate data, ability to utilize available climate data, informed decision making	<ul style="list-style-type: none"> Enhance the sector's capacity to access climate data Prepare climate information database Improve informed decision making on climate change issues Technical training to manipulate climate data 	X	X	X	<ul style="list-style-type: none"> Timely decision Appropriate action on climate change impacts Effective measures for adaptation and mitigation Early warning system 	MoUDC EFCCC MoF NMSA NDRMC	CSA UNDP Universities and research centers
Information communication and Performance Auditing System	Improve IC system, establish performance auditing system, website	<ul style="list-style-type: none"> Select and install appropriate IC system Upgrade the existing website and secure information Apply performance auditing 	X	X	X	<ul style="list-style-type: none"> Effective database management Easy and fast information communication Increase transparency and accountability 	MOUDC EFCCC MoF MoST	UNDP, GEF, UN agencies, WB, NGOs Global climate finance (GCF)

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Capacity gaps and needs	Areas for improvement	Proposed CD interventions	Timeline			Targets or desired outcomes	Lead responsibility	Supporting organizations
			Short term	Medium term	Long term			
	development and security system	<ul style="list-style-type: none"> Enhance competency of IC and performance auditing staff Avail fast and secured internet service Empower and encourage experts to use the IC system 				<ul style="list-style-type: none"> Increase efficiency and saves time Enhance knowledge management Promotes the sector Increase performance of experts 	OFAGE	Private sectors Universities and research centers
Technology for climate change adaptation and mitigation	Utilization of new and advanced green technologies	<ul style="list-style-type: none"> Identify appropriate technologies Introduce new and advanced technologies Upgrade existing technology Empower local technology Train experts, cooperatives and MSEs on advanced technology Experience sharing 	X	X	X	<ul style="list-style-type: none"> Reduce sectoral GHG emission Promote local technology Local economy support Knowledge and skill transfer 	MOUDC EFCCC MoF MoST	UNDP, GEF, UN agencies, WB, NGOs Global climate finance (GCF) Private sectors Universities and research centers
Legal framework and legislation specific to the sector	Strengthen the regulatory and legal framework	<ul style="list-style-type: none"> Review legal framework and guideline, Update the legal framework for NDC implementation Enhance understanding on climate change and related national and international regulation and conventions 	X	X	X	<ul style="list-style-type: none"> Create enabling legal framework and guideline Enhance awareness on climate change and related national and international regulation and conventions Updated legal framework for NDC implementation 	MOUDC EFCCC MoF FSCE	UNDP, UN agencies, WB, NGOs, Office of the Prime Minister Universities and Research Centers
Organizational Structure (mandate and role)	Revise the existing organizational structure, set clear mandates and roles, updated the structure to	<ul style="list-style-type: none"> Undertake review of mandate and role of the sector on NDC Upgrade the existing organizational structure to include MRV unit Empower staff and higher officials Follow up the approval of the revised structure 	X	X	X	<ul style="list-style-type: none"> Formulate clear mandate and role of the sector on NDC Upgrade organizational structure that include MRV unit Consistent structure in the CRGE Bureau up to regional and woreda levels for NDC implementation 	MOUDC EFCCC MoF ECSC PDC	UNDP, UN agencies, WB, NGOs, Office of the Prime Minister Universities and Research Centers

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Capacity gaps and needs	Areas for improvement	Proposed CD interventions	Timeline			Targets or desired outcomes	Lead responsibility	Supporting organizations
			Short term	Medium term	Long term			
	include MRV unit					<ul style="list-style-type: none"> • Create aware and committed Staff and management • Enhance communication and coordination 		

5.1.3. Institutional Capacity Building Action Plan for the Urban Development & Construction Sector

Table 18: Capacity building action plan for Urban Development & Construction Sector

No	Capacity Building Actions/Interventions	Unit	Qty	Budget and Timeframe						Total Estimated Cost (USD)
				Short-term		Medium-term		Long-term		
				0-3 Years	Budget	0-5 Years	Budget	0-10 years	Budget	
1	Implementation Capacity									
1.1	Conduct need-based short-term training to experts	Training	50	30	324,900.00	10	108,300.00	10	108,300.00	541,500.00
1.2	Conduct refreshment training for experts on different topics	Training	100	10	75,810.00	50	379,050.00	40	303,240.00	758,100.00
1.3	Conduct long term trainings for staffs	Training	20	3	89,347.50	7	208,477.50	10	297,825.00	595,650.00
1.4	Conduct training for higher management on leadership, coordination, partnership, resource mobilization, negotiation	Training	10	5	189,525.00	3	113,715.00	2	75,810.00	379,050.00
1.5	Experience sharing	Visit	10	3	129,960.00	5	216,600.00	2	86,640.00	433,200.00
2	Finance									
2.1	Preparation of comprehensive resource mobilization plan	Plan	1	1	239,400.00					239,400.00

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2.2	Design bankable projects	Project	10	3	149,625.00	2	99,750.00	5	249,375.00	498,750.00
2.3	Conduct training on resource mobilization, project design and management, climate finance and other topics	Training	30	15	299,250.00	10	199,500.00	5	99,750.00	598,500.00
2.4	Negotiate with national government to allocate additional budget for capacity building	Meeting	10	3	29,925.00	2	19,950.00	5	49,875.00	99,750.00
2.5	Technical training on negotiation skill for high level managers, senior finance experts	Training	10	3	119,700.00	2	79,800.00	5	199,500.00	399,000.00
2.6	Lobby donors on need for more stable funding patterns	Negotiation	20	6	47,880.00	4	31,920.00	10	79,800.00	159,600.00
3	Measuring, reporting and verification (MRV), baseline data for sectoral GHG emission									
3.1	Hands on training for experts on IPCC software	Training	10	3	169,290.00	2	112,860.00	5	282,150.00	564,300.00
3.2	Develop standards for sectoral GHG emission data collection	Document	3	1	51,300.00	1	51,300.00	1	51,300.00	153,900.00
3.3	Enhance knowledge and skill of experts for MRV	Training	20	9	346,275.00	6	230,850.00	5	192,375.00	769,500.00
3.4	Produce quality report on climate change adaptation and mitigation	Report	20	6	115,425.00	4	76,950.00	10	192,375.00	384,750.00
3.5	Update the available baseline data	LS	3	1	230,850.00	1	230,850.00	1	230,850.00	692,550.00
4	Capacity to access and utilize available climate data									
4.1	Enhance the sector's capacity to access climate data	Training	10	3	74,812.50	2	49,875.00	5	124,687.50	249,375.00
4.2	Prepare climate information database	System	13	7	38,365.38	6	32,884.62			71,250.00
4.3	Improve informed decision making to reduce climate change risks	City/Town	20	6	53,437.50	4	35,625.00	10	89,062.50	178,125.00
4.4	Technical training to manipulate climate data	Training	30	9	64,125.00	6	42,750.00	15	106,875.00	213,750.00

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5	Information communication and Performance Auditing System									
5.1	Appropriate IC system selected and installed	System	13	7	191,826.92	6	164,423.08			356,250.00
5.2	Update the website and secure information	No	13	7	153,461.54	6	131,538.46			285,000.00
5.3	Apply performance auditing	No	20	6	76,950.00	4	51,300.00	10	128,250.00	256,500.00
5.4	Enhance competency of IC and performance auditing staff	Training	10	3	64,125.00	2	42,750.00	5	106,875.00	213,750.00
5.5	Avail fast and secured internet service	Service	13	7	92,076.92	6	78,923.08			171,000.00
5.6	Empower and encourage experts to use the IC system	Training	20	6	42,750.00	4	28,500.00	10	71,250.00	142,500.00
6	Technology for climate change adaptation and mitigation									
6.1	Identify appropriate technologies	Technology	5	2	125,400.00	2	125,400.00	1	62,700.00	313,500.00
6.2	Introduce new and advanced technologies	Technology	5	2	313,500.00	2	313,500.00	1	156,750.00	783,750.00
6.3	Upgrade existing technology	Technology	20	12	413,820.00	5	172,425.00	3	103,455.00	689,700.00
6.4	Empower local technology	Technology	30	15	313,500.00	10	209,000.00	5	104,500.00	627,000.00
6.5	Train experts, cooperatives and MSEs on advanced technology	Training	10	3	122,265.00	2	81,510.00	5	203,775.00	407,550.00
6.6	Experience sharing on technology	Visit	10	3	94,050.00	2	62,700.00	5	156,750.00	313,500.00
7	Legal framework and legislation specific to the sector									
7.1	Review legal framework and guideline	Document	13	7	187,990.38	6	161,134.62			349,125.00
7.2	Update the legal framework for NDC implementation	Document	13	7	241,701.92	6	207,173.08			448,875.00

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7.3	Enhance understanding on the updated documents and climate change and related national and international regulation and conventions	Training	10	3	59,850.00	2	39,900.00	5	99,750.00	199,500.00
8	Organizational Structure (mandate and role)									
8.1	Undertake review of mandate and role of the sector on NDC	Document	13	7	115,096.15	6	98,653.85			213,750.00
8.2	Upgrade the existing organizational structure to include MRV unit	Structure	13	7	153,461.54	6	131,538.46			285,000.00
8.3	Empower staff and higher officials	No	100	50	81,937.50	40	65,550.00	10	16,387.50	163,875.00
8.4	Follow up the approval of the revised structure	LS	13	7	26,855.77	6	23,019.23			49,875.00
	Total Estimated Budget (USD)									14,250,000.00

5.2. Capacity Development Action Plan for Mines & Petroleum Sector

The key institutional capacity gaps were identified and prioritized and the level of interventions were decided for further planning purpose. Based on this a set of technical and functional capacities were considered, which are identified against the key capacity gaps to make this capacity building plan implementable and operational. In this action plan the capacity building intervention areas/ focus areas were identified that are required at the individual, institutional/organizational and system levels.

Table 19: Capacity gaps prioritization for Mines & Petroleum Sector

System level	Institutional/organizational level	Individual level
<ul style="list-style-type: none"> • Coordination and partnership • Knowledge management system • Information communication, Database management, and Performance auditing system • Monitoring and Evaluation system • Need-based capacity development system 	<ul style="list-style-type: none"> • Organizational structure (mandate and role) • Financial resources management • Human resource management • Legal framework and legislation specific to the sector • Technology identification and utilization • Access and utilization of climate data • Measuring, Reporting and Verification (MRV), Sectoral GHG emission baseline data 	<ul style="list-style-type: none"> • Knowledge and skill • Competencies, • Awareness gap on CRGE and lack of commitment (higher officials)

5.2.1. Capacity Building Implementation and Structure of the Plan

The capacity building action plan should be aligned with the updated NDC and DP-10. The updated NDC implementation period is up to 2030, thus this capacity building action plan will be started at the end of 2021.

The capacity building action plan will be implemented by the Mines & Petroleum sector, different departments with high level management strict follow up and managerial support. The capacity building action plan can better be implemented if the existing organizational structure is revised and updated to include **CRGE** unit. For ease of specific project management, MoMP can establish special project management committee which has direct link with the updated NDC and DP-10 implementation and other related departments. Currently, the Environment and Community Development Directorate under the MoMP is responsible for the implementation of the action plan. The EFCCC and MoF are expected to support the implementation process.

5.2.2. Indicative Capacity Requirement for the Mines & Petroleum Sector

The indicative capacity requirements for the updated NDC implementation was developed following a standard logical framework. The time frames for short-term, medium-term and long-term are assumed to be implemented within 0-3 year, 0-5 year and, 0-10 year period, respectively. And targets or desired outcomes with supportive organizations are listed. The indicators and activities were further discussed with the sector and the action plan is updated so that it can help to strengthen the institutional capacity of the Mines & Petroleum sector for effective implementation of the updated NDC and sectoral DP-10.

Table 20: Indicative Capacity Requirement for NDC implementation

Capacity gaps and needs	Areas for improvement	Proposed CD interventions	Timeline			Targets or desired outcomes	Lead responsibility	Supporting organizations
			Short term	Medium term	Long term			
Sectoral arrangement and Organizational Structure (mandate and role)	Revise the existing sectoral arrangement and organizational structure, set clear mandates and roles, Create CRGE unit in the sector, updated the structure to include MRV unit	<ul style="list-style-type: none"> Setup CRGE unit Create consistent organizational structure from federal to regional and woreda level Undertake review of mandate and role of the sector on NDC Upgrade the existing organizational structure to include MRV unit Empower staff and higher officials Follow up the approval of the revised sectoral arrangement and structure Align the sector with the CRGE facility form federal to regional level Design and develop specific role and function for the sector regarding CRGE/NDC 	X	X	X	<ul style="list-style-type: none"> Establish CRGE unit Formulate clear mandate and role of the sector on NDC Upgrade organizational structure that include MRV unit Consistent structure in the Mines & Petroleum sector up to regional and woreda levels for NDC implementation Create aware and committed Staff and management Enhance vertical and horizontal communication and coordination The sector is well aligned with the CRGE facility Specific role and function of the sector designed for CRGE/NDC 	MoMP EFCCC MoF ECSC PDC	UNDP, UN agencies, WB, NGOs, Office of the Prime Minister Universities and Research Centers

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Capacity gaps and needs	Areas for improvement	Proposed CD interventions	Timeline			Targets or desired outcomes	Lead responsibility	Supporting organizations
			Short term	Medium term	Long term			
Policy, Legal framework and legislation specific to the sector for CRGE/NDC implementation	Formulate policy and strategy of the sector towards NDC Strengthen the regulatory and legal framework	<ul style="list-style-type: none"> Follow up the approval of the formulated policy of the sector Review legal framework and guideline Update the legal framework for NDC implementation Enhance understanding on climate change and related national and international regulation and conventions 	X	X		<ul style="list-style-type: none"> Aligned policy and strategy with CRGE/NDC Create enabling legal framework and guideline Enhance awareness on climate change and related national and international regulation and conventions Updated legal framework for NDC implementation 	MoMP EFCCC MoF FSCE	UNDP, UN agencies, WB, NGOs Office of the Prime Minister Universities and Research Centers
Implementation Capacity	Knowledge, skill and competency	<ul style="list-style-type: none"> Conduct need-based short-term trainings to experts Conduct refreshment training for experts on different topics Conduct long term trainings for staffs Conduct training for higher management on leadership, coordination, partnership, resource mobilization, negotiation Experience sharing Develop incentive mechanism Create understanding on the CRGE/NDC objectives 	X	X	X	<ul style="list-style-type: none"> Enhance staff knowledge, skill and competency Improve leadership skills for managers Increase awareness level on CRGE/NDC Improve implementation capacity for NDC and DP-10 Initiate staff and officials for better performance Increased understanding of CRGE/NDC objectives 	MoMP EFCCC MoF PDC	UNDP, UN agencies, WB, NGOs, Universities Research centers Private sectors
Finance	Financial sources, adequate budget, negotiation for finance tracking, financial management	<ul style="list-style-type: none"> Preparation of resource mobilization plan Design bankable projects Conduct training on resource mobilization, project design and management, climate finance and other topics Negotiate with national government to allocate 	X	X		<ul style="list-style-type: none"> Sectoral resource mobilization plan Financial resources mobilized Financial capacity enhanced Skill and knowledge of managers and finance experts enhanced for negotiation 	MoMP EFCCC MoF PDC OFAGE	UNDP, GEF, UN agencies, WB, NGOs Global climate finance (GCF) Private sectors

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Capacity gaps and needs	Areas for improvement	Proposed CD interventions	Timeline			Targets or desired outcomes	Lead responsibility	Supporting organizations
			Short term	Medium term	Long term			
	and resource mobilization,	additional budget for capacity building <ul style="list-style-type: none"> • Technical training on negotiation skill for high level managers, senior finance experts • Lobby donors on need for more stable funding patterns 			X	<ul style="list-style-type: none"> • Managers awareness development on climate finance negotiation • Increased funding resources • Identify Bankable projects 		
Measuring, reporting and verification (MRV), baseline data for sectoral GHG emission	Establish MRV unit, staffing, knowledge and skill of experts, Collect baseline data for sectoral GHG emission, update GHG emission data	<ul style="list-style-type: none"> • Hands on training for experts on IPCC software • Develop standards for sectoral GHG emission data collection • Enhance knowledge and skill of experts for MRV • Produce quality report on climate change adaptation and mitigation • Update the available baseline data 	X	X	X	<ul style="list-style-type: none"> • Increase awareness on measuring, reporting and verification • Enhance knowledge and skill competency for GHG emission data collection & report writing • Sectoral GHG emission data collected/updated • Properly manipulate the IPCC software • Fully functional MRV setup aligned with EFCCC 	MoMP EFCCC MoF ECSC PDC	UNDP, GEF, UN agencies, WB, NGOs Global climate finance (GCF) Private sectors Universities and research centers
Capacity to access and utilize available climate data	Mandate to access climate data, ability to utilize available climate data, informed decision making	<ul style="list-style-type: none"> • Enhance the sector's capacity to access climate data • Improve informed decision making to reduce climate change risks 	X	X	X	<ul style="list-style-type: none"> • Timely decision • Appropriate action on climate change impacts • Effective measures for adaptation and mitigation • Early warning system 	MoMP EFCCC MoF NMSA NDRMC	CSA UNDP Universities and research centers

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Capacity gaps and needs	Areas for improvement	Proposed CD interventions	Timeline			Targets or desired outcomes	Lead responsibility	Supporting organizations
			Short term	Medium term	Long term			
Technology for climate change adaptation and mitigation	Utilization of new and advanced green technologies	<ul style="list-style-type: none"> Identify appropriate technologies Introduce new and advanced technologies Upgrade existing technology Empower local technology Train experts, cooperatives and MSEs on advanced technology Experience sharing 	X	X	X	<ul style="list-style-type: none"> Reduce sectoral GHG emission Promote local technology Local economy support Knowledge and skill transfer 	MoMP EFCCC MoF MoST	UNDP, GEF, UN agencies, WB, NGOs Global climate finance (GCF) Private sectors Universities and research centers
Information communication and Performance Auditing System	Improve IC system, establish performance auditing system, website development and security system	<ul style="list-style-type: none"> Select and install appropriate IC system Update existing website and secure information Apply performance auditing Enhance competency of IC and performance auditing staff Avail fast and secured internet service Empower and encourage experts to use the IC system 	X	X	X	<ul style="list-style-type: none"> Effective database management Easy and fast information communication Increase transparency and accountability Increase efficiency and saves time Enhance knowledge management Promotes the sector Increase performance of experts 	MoMP EFCCC MoF MoST OFAGE	UNDP, GEF, UN agencies, WB, NGOs Global climate finance (GCF) Private sectors Universities and research centers

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5.2.3. Institutional Capacity Building Action Plan for the Mines & Petroleum Sector

Table 21: Capacity building action plan for the Mines & Petroleum Sector

No	Capacity Building Actions/Interventions	Unit	Qty	Budget and Timeframe						
				Short-term		Medium-term		Long-term		Total Estimated Cost (USD)
				0-3 Years	Budget	0-5 Years	Budget	0-10 years	Budget	
1	Sectoral arrangement and organizational Structure (mandate and role)									
1.1	Setup CRGE unit at federal to regional levels	LS	13	7	537,115.38	6	460,384.62			997,500.00
1.2	Create consistent organizational structure from federal to regional and woreda level	System	13	7	429,692.31	6	368,307.69			798,000.00
1.3	Undertake review of mandate, role and function of the sector on CRGE/NDC	Document	13	7	322,269.23	6	276,230.77			598,500.00
1.4	Upgrade the existing organizational structure to include MRV unit	Structure	13	7	236,330.77	6	202,569.23			438,900.00
1.5	Empower staff and higher officials	No	100	50	239,400.00	40	191,520.00	10	47,880.00	478,800.00
1.6	Follow up the approval of the revised sectoral arrangement and structure	LS	13	7	171,876.92	6	147,323.08			319,200.00
1.7	Align the sector with the CRGE facility form federal to regional level	No	13	7	150,392.31	6	128,907.69			279,300.00
1.8	Design and develop specific role and function for the sector regarding CRGE/NDC	Document	1	1	79,800.00					79,800.00
2	Policy, Legal framework and legislation specific to the sector for CRGE/NDC implementation									
2.1	Follow up the approval of the formulated policy of the sector	LS	2	2	19,152.00					19,152.00
2.2	Review legal framework and legislation	Document	30	13	145,236.00	17	189,924.00			335,160.00
2.3	Negotiate and update the legal framework for NDC implementation	Document	30	13	165,984.00	17	217,056.00			383,040.00

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2.4	Enhance understanding on updated legal framework and related national and international regulations and conventions on climate change issues	LS	13	7	118,595.08	6	101,652.92			220,248.00
3	Implementation Capacity									
3.1	Conduct need-based short-term training to experts	Training	60	40	425,600.00	10	106,400.00	10	106,400.00	638,400.00
3.2	Conduct refreshment training for experts on different topics	Training	30			20	255,360.00	10	127,680.00	383,040.00
3.3	Conduct long term trainings for staffs	Trainee	28			14	255,360.00	14	255,360.00	510,720.00
3.4	Conduct training for higher management on leadership, coordination, partnership, resource mobilization, negotiation	Trainee	26	13	191,520.00	13	191,520.00			383,040.00
3.5	Experience sharing	Visit	10	3	84,268.80	2	56,179.20	5	140,448.00	280,896.00
3.6	Develop incentive mechanism	System	13	7	123,751.38	6	106,072.62			229,824.00
3.7	Create understanding on the CRGE/NDC objectives	Workshop	6	6	127,680.00					127,680.00
4	Finance									
4.1	Preparation of resource mobilization plan	No	3	1	37,240.00	1	37,240.00	1	85,120.00	159,600.00
4.2	Design bankable projects	Project	12	3	99,750.00	4	133,000.00	5	166,250.00	399,000.00
4.3	Conduct training on resource mobilization, project design and management, climate finance and other topics	Training	12	3	79,800.00	4	106,400.00	5	133,000.00	319,200.00
4.4	Negotiate with national government to allocate additional budget for capacity building	Meeting	10	3	33,516.00	2	22,344.00	5	55,860.00	111,720.00
4.5	Technical training on negotiation skill for high level managers, senior finance experts	Training	12	3	91,770.00	4	122,360.00	5	152,950.00	367,080.00
4.6	Lobby donors on need for more stable funding patterns	Negotiation	20	6	71,820.00	4	47,880.00	10	119,700.00	239,400.00

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5	Measuring, reporting and verification (MRV), baseline data for sectoral GHG emission									
5.1	Hands on training for experts on IPCC software	Training	10	3	143,640.00	2	95,760.00	5	239,400.00	478,800.00
5.2	Develop standards for sectoral GHG emission data collection	Document	3	1	79,800.00	1	79,800.00	1	79,800.00	239,400.00
5.3	Enhance knowledge and skill of experts for MRV	Training	10	6	430,920.00	2	143,640.00	2	143,640.00	718,200.00
5.4	Produce quality report on climate change adaptation and mitigation	Report	10	3	179,550.00	2	119,700.00	5	299,250.00	598,500.00
5.5	Update the available baseline data	LS	3	1	119,700.00	1	119,700.00	1	119,700.00	359,100.00
6	Capacity to access and utilize available climate data									
6.1	Enhance the sector's capacity to access climate data	Training	10	3	57,456.00	2	38,304.00	5	95,760.00	191,520.00
6.2	Improve informed decision making to reduce climate change risks	Site	10	3	38,304.00	2	25,536.00	5	63,840.00	127,680.00
7	Technology for climate change adaptation and mitigation									
7.1	Identify appropriate technologies	Technology	10	3	65,116.80	2	43,411.20	5	108,528.00	217,056.00
7.2	Introduce new and advanced technologies	Technology	10	3	219,769.20	2	146,512.80	5	366,282.00	732,564.00
7.3	Upgrade existing technology	Technology	10			5	203,490.00	5	203,490.00	406,980.00
7.4	Empower local technology	Technology	24	4	90,440.00	10	226,100.00	10	226,100.00	542,640.00
7.5	Experience sharing	Visit	10	3	105,814.80	2	70,543.20	5	176,358.00	352,716.00
7.6	Train experts, cooperatives, artisan miners on advanced technology	Training	60	18	138,373.20	13	99,936.20	29	222,934.60	461,244.00
8	Information communication and Performance Auditing System									

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8.1	Select and install appropriate IC system	System	13	7	232,033.85	6	198,886.15			430,920.00
8.2	Update existing website and secure information	No	13	7	116,016.92	6	99,443.08			215,460.00
8.3	Apply performance auditing	No	20	6	77,565.60	4	51,710.40	10	129,276.00	258,552.00
8.4	Enhance competency of IC and performance auditing staff	Training	10	3	64,638.00	2	43,092.00	5	107,730.00	215,460.00
8.5	Avail fast and secured internet service	Service	13	7	92,813.54	6	79,554.46			172,368.00
8.6	Empower and encourage experts to use the IC system	Training	10	3	43,092.00	2	28,728.00	5	71,820.00	143,640.00
	Total Estimated Budget (USD)									15,960,000.00

6. CONCLUSION AND RECOMMENDATION

6.1. Conclusion

The study was initiated to undertake institutional capacity gap and need assessment and prepare institutional capacity development action plan for two sectors: Urban Development & Construction and Mines & Petroleum. The work aimed at addressing greenhouse gas (GHG) emissions reduction goals and targets within the 2020 – 2030 year period. With this time frame, the capacity gap assessment and capacity development action plan for the two development sectors targeted on developing appropriate methods, in-depth reviews of the policy, strategy and legal frameworks, organizational structure and sectorial arrangements, roles and functions of key stakeholders including their participation and involvement, capacity gaps and training needs towards DP-10 and updated NDC implementation, key challenges/constraints including good practices, and possible measures to effective and enhanced implementation of the prepared action plans for the two sectors. Accordingly, the following conclusions are drawn based on the assessment, analysis and evaluation of qualitative and quantitative data and/or information obtained from various sources.

Findings from analytical analysis, PESTEL and SWOT models, showed that the existing organizational structure in terms of synergy and coordination as well as human-institutional capacity to run and administer the updated NDC and DP-10 is limited but with varied degrees and extents. By that, the Urban Development & Construction sector is more aligned and consistent with moderate level, while the Mines & Petroleum sector has limitations on implementation of the updated NDC and DP-10. This implies that this capacity gap assessment and capacity development action plan shall contribute a lot towards effective implementation of the updated NDC and DP-10. More specifically, the PESTEL analysis result showed that technology-capacity-IC systems access and provision mattered in both sectors, i.e. timely and urgent interventions ought to be taken. On the other, the SWOT analysis result showed that organizational strengths and opportunities compared to weaknesses and threats; aggregate weights and further scaling rates in response to mandates, qualification, competency, leadership; un-equivocal and non-uniform between the two target sectors. This, however, gave clues on how possible interventions can be taken to achieve the 2020-2030 goals and targets through creation of platforms where multi-

stakeholder, inclusive and integration are pillars to the updated NDC and DP-10 strategies framed under the institutional capacity development action plan.

Findings from in-depth reviews of the policy, legal and institutional framework in response to capacity gaps and capacity development action plan showed the existence of platforms crucial for addressing climate change adaptation and mitigation measures on one hand, and the organizational structure and arrangements under the CRGE facility as enabling environments to implement the updated NDC and DP-10 at all levels. The organogram already structured with helical-pyramid, which is a recent and widely accepted approach, with peculiarities to effective management and administration of scarce resources. Following a hierarchical level analysis of the legal and institutional framework of the nation, duties and responsible organ bodies have been running climate change adaptation and mitigation tasks lacking consistent and rigorous approach at all regional states up to grassroots levels. With respect to the Paris agreement and hitherto multi-lateral environmental and climate change related agreements, i.e. Rio-Convention, Kyoto protocol and Vienna convention including principles as well as values of the conference of parties (COPs), Ethiopia had been showing political commitments through issuance and declaring laws within the national priority goals and targets. But, because of limited capacity to implement due to unstable institutional arrangements, commonality of mandates and functions, has affected the sectors to fully address climate change challenges. Objective-based evaluation indicated that stated-intended goals and objectives within legal and institutional documents in practice deviated significantly across stakeholders, sectors and along structures: - formulation remained top-down.

Findings from stakeholder analysis revealed that the existing coordination and alignments with varied degrees in terms of their roles and functions to implement the updated NDC and DP-10. Nevertheless, the potential of key stakeholders towards addressing climate change adaptation and mitigation as well as supporting for capacity development thematic areas found to be significant to achieve GHG emissions reduction goals and targets in the 2020-2030 year period.

Findings from **descriptive analysis** revealed that most respondents were aware of the DP-10 and the NDC, and this gave a clue on the possible rooms to understand the importance of capacity development needs for the two sectors. The frequency distribution pattern, response rate values, of institutional capacity gaps and capacity development needs varied with significant deviations across sectors and along structural units. More importantly, the assessment indicated that education

level and work experience were found to be the two most determinant assets of the two development sectors. This gave insight about the need to find mechanisms to intervene the high turnover rate trends of the two sectors.

The independent variable analysis showed that this capacity gap assessment and capacity development action plan will serve indispensable contributions through various mechanisms. Assessment and analysis of data obtained from expert survey, KII and FGDs revealed that the two sectors are affected by more or less similar institutional capacity gaps, the Urban Development & Construction sector with moderate (or 50%) performance level and that of the Mines & Petroleum sector with low (<50%) performance level. Based on this firsthand information, further scaling criteria to rate and rank the two sectors, i.e. mandates, staff and institution capacity, competencies and leadership criteria, were conducted following Likert-scale case weighting and ranking methods. Accordingly the result showed that the role and function of key stakeholders to address climate change adaptation and mitigation is significant.

The cross-tabulation analysis, held based on matrix values of priority capacity gaps, revealed the needs for mainstreaming factors having significant roles to implement the updated NDC and DP-10. In this regard, critical measures to fill capacity gaps were screened in accordance to the prepared capacity development action plan in the context of the Urban Development & Construction and Mines & Petroleum sectors.

In addition the non-parametric test analysis, reliability test using Kappa's coefficient likelihood significance level, showed that important issues and concerns of climate change with respect to institutional capacity gaps are well addressed and the degree of result outputs usability is credible and vital for effective implementation of the institutional capacity building action plan.

Finally the institutional capacity building action plan was prepared in order to fill the identified and prioritized key institutional capacity gaps and to address major challenges of the Urban Development & Construction and Mines & Petroleum sectors for successful implementation of the updated NDC and DP-10. During the development of the action plan the assumptions were clearly addressed, indicators and specific activities were identified and logical framework was used. Apparently indicative budget was allotted for the specific activities required for intervention in the two sectors. Therefore the key institutional capacity gaps identified for the Urban Development & Construction and Mines & Petroleum sectors shall be addressed and the designed

institutional capacity development action plan should be employed in order to enhance the sectors implementation capacity to achieve the updated NDC and DP-10 goals and targets.

6.2. Recommendation

To improve the institutional capacity limitations to implement the updated NDC and sectoral DP-10 there is urgent need to build the capacity of the Urban Development & Construction and Mines & Petroleum sectors. By which, interventions should be held through short, medium and long-term periods indicated within the implementation logical framework matrix. Understandably, on-job and off-job training activities should be a priority target of the two sectors to ensure that existing knowledge, skill, competency and systems fit to achieve intended goals and targets of the updated NDC for 2020-2030. For the successful implementation of the updated NDC and sectoral DP-10 in the two sectors the following further recommendations are forwarded.

- Financial limitations should be intervened through platforms of searching for fund sources, mediated under public-private partnership and sector-institution linkages oriented towards climate change adaptation and mitigation. In addition, the two sectors need to prepare incentive mechanisms to retain higher officials and well experienced and skilled staffs.
- To enhance coordination and synergy of stakeholders, there is a need to adopt the principles of the Paris Agreement, Art. 6 in particular. Similarly, so as to achieve the 2030 GHG emissions reduction goals and targets the two sectors shall be aligned to the UNFCCC-EFCCC framework modalities. This further should be supported with programs and plans for increasing awareness level on climate change adaptation and mitigation at all levels.
- To enhance the organizational structure and sectoral arrangements, there should be corrective measures to properly align in accordance to standards and compliances of the CRGE facility organogram. One of the key interventions, as suggested from respondents, is the need to review the existing organizational structure in order to establish MRV unit within the two sectors. In more elaboration, both sectors need to agree on similar measurement, reporting and verifying methods for GHG emission inventory. Specifically for the Mines & Petroleum sector the CRGE unit should be established within short period of time.
- From institutional capacity development point of view, the two sectors shall develop operational bylaws for monitoring and evaluating *performance-competency-and-leadership* triplet pillar elements. The Urban Development & Construction sector need to review and

update the existing legal and institutional framework for successful implementation of the updated NDC and DP-10. The Mines & Petroleum sector need to be supported by strong policy and the revised bylaws should be approved in short period of time to strengthen the sector's implementation capacity.

- Climate change governance and leadership, with the emerging theory of change and involvement of new and innovative ideas, organizations are mandated to develop legal and technical guidance and instruments to fill capacity development gaps in climate change. What is more in this, the two sectors should strategically and technically be geared towards the six (6) priority strategies of the DP-10 and update NDC implementation on one hand, and the UNFCCC-EFCCC multi-stakeholder participation and involvement, inclusive and broader-scale based approaches reachable to the needy and critical ecologies riskier to climate change hazards on the other hand.
- For effective implementation of the updated NDC and sectoral DP-10, appropriate information communication system is mandatory. Therefore the two sectors should establish up-to-date IC system for fast and reliable information exchange and effective communication. This shall be supported by smart database management system that enables to generate quality report and disseminate credible data and information for informed decision making.
- The technology requirement is also high in the two sectors for climate change adaptation and mitigation; thus the capacity of the sectors should be enhanced in order to identify and utilize appropriate technologies for successful implementation of the updated NDC and DP-10.
- To effectively implement the prepared institutional capacity development action plans for the two sectors, trainings should be organized on the logical framework approach (LFA) that creates enabling environment for experts and managers assigned to run dues. All the indicators and log-frame activities of the action plans should get ready for implementation through dialogues and flexible mechanisms among interested parties.
- Finally in order to implement the institutional capacity building action plans successfully the two sectors should get the required technical and financial support from EFCCC, MoF and other development partners and stakeholders mentioned with in the indicative institutional capacity building action plan.

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