

NATIONALLY DETERMINED CONTRIBUTION IN NEPAL

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BACKGROUND

The Paris Agreement requires that each Party to the United Nations Framework Convention on Climate Change (UNFCCC) prepare, update and communicate its Nationally Determined Contribution (NDC) document declaring the actions it plans to undertake to combat climate change, especially to reduce its greenhouse gas emissions. Many developing countries have also included actions related to adaptation, technology and finance in their NDCs. The collective documents form the basis for reduction of greenhouse emissions from 2021 when the Paris agreement starts guiding global climate action.

When state Parties submitted their NDCs to the UNFCCC secretariat following the historic Paris Agreement to limit global temperature rise below 2 degree Celsius, if not to 1.5 degree Celsius, it was found that the cumulative commitment of the Parties was not enough to meet the goal of the accord. The UN body then urged Parties to ratchet up their climate ambition, come up with more plans, and revise their NDCs by December 2020 so that the goals of the Paris Agreement can be met.

Nepal submitted its first NDC to the UNFCCC in February 2016. It is now revising the document and plans to submit its revised NDC ahead of the December 2020 deadline.

METHODOLOGY

This descriptive research utilized data from secondary sources and key informants. A range of policy and legal documents on climate change and other related sectors were reviewed in course of the study.

Some of the reviewed documents were: National Climate Change Policy, 2019, National Adaptation Programme of Action (NAPA),2010, Second National Communication Report, 15th periodic development plan approach paper (2019/20- 2023/24), Nepal Sustainable Development Goals Present Status and Future Roadmap (2016-2030), Economic Survey of 2017/18 and 2018/19, Forestry Sector Strategy(2016-2025), Agriculture Development Strategy (2015-2035), National Energy Strategy of Nepal, 2013, Hydropower Development Policy,2001, Disaster Risk Reduction and Management Act,2017, Environment Friendly Vehicle and Transport Policy,2014, Transport Strategy (2015-2040), Environment Protection Act,1997, Solid Waste Management Act,2011 and White Paper

POLICY MESSAGES

- ➔ The implementation of NDC requires that it is in coherence with Nepal's development vision and plans as well as with climate change and sectoral policies.
- ➔ NDC's implementation requires clear cost estimation and a roadmap to mobilize domestic and international financial resources.
- ➔ The engagement of multiple stakeholders at the federal, provincial and municipal levels is necessary for NDC to be implemented successfully.
- ➔ The NDC must target a substantial increase in the share of renewable energy in the national energy mix. It should target to achieve 100 per cent renewable in key sectors by 2050.
- ➔ The NDC must acknowledge and take into account contributions made by both the development and the private sector to adaptation and mitigation actions.
- ➔ The NDC must contribute to Nepal's graduation from least developed to middle-income country. A clear development trajectory with an increased contribution of renewable energy needs to be developed.

issued by Ministry of Energy, Water Resources and Irrigation,2018. Structured interviews were conducted with senior officials of National Planning Commission (NPC), Ministry of Forests and Environment, Ministry of Agriculture Development and Nepal Agricultural Research Council (NARC).

Findings of the research were validated through two consultation meetings and a workshop. The paper was developed taking into consideration feedback and comments received during the consultation meetings and the workshop.

The current NDC does not cover adaptation related sectors like water resource public health and urban settlement and infrastructure. And also waste management, agriculture and land, industry, construction and housing sectors related to mitigation are not included.

NEPAL'S NDC

Nepal submitted its NDC to the UNFCCC in October 2016. It aims to reduce climate change impacts through adaptation actions so as to protect life and livelihoods of communities vulnerable to climate change. It also intends to limit temperature rise to safe levels and make the earth a livable planet (GoN, 2016).

Nepal's NDC covered both adaptation and mitigation actions. In the context of adaptation, the NDC primarily covers agriculture and climate-induced disasters. Similarly, when it comes to mitigation the NDC set targets to reduce greenhouse gas emissions from forest, energy and transportation sectors. It encouraged studies on loss and damage due to climate change.

Adaptation and mitigation targets as mentioned in Nepal's NDC are as follows:

Adaptation Targets

- ➔ Formulation of NAP to be adopted in 2020
- ➔ Implementation of the Environment Friendly Local Governance Framework
- ➔ Utilization of scientific approaches towards understanding and dealing with the impacts of climate change and development of adaptation strategies for every sector
- ➔ Commissioning of studies on loss and damage associated with climate change impacts
- ➔ Enhancement of the agricultural sector by adopting climate-friendly technologies
- ➔ Addressing climate-induced disasters in earthquake-affected areas and rebuild Nepal better.

Mitigation Targets

- ➔ Maintain forest cover in 40 per cent of the total area of the country
- ➔ Pilot REDD+ project to reduce about 14 million tons of CO₂-eq by 2020
- ➔ Diversify the energy mix and energy consumption patterns towards renewables
- ➔ Achieve 80 per cent electrification through renewable energy sources by 2050
- ➔ National Rural Renewable Energy Programme (NRREP): reduce dependency on biomass and make it more efficient

- ➔ By 2020, increase the share of electric vehicles to 20 per cent compared to 2010.
- ➔ By 2020, expand the energy mix focusing on renewables and increase its contribution to the mix to 20 per cent.
- ➔ By 2050, decrease dependence on fossil fuel in transport sector by 50 per cent.

SECTORWISE ANALYSIS OF NDC

Nepal has made progress in both adaptation and mitigation targets set in its NDC. The target to maintain forest cover in 40 per cent of the total land area has also been met. The Nepal Agriculture Research Council (NARC) has developed stress-tolerant varieties of paddy, maize and wheat. The government has launched a national campaign to promote agriculture insurance. Similarly, a pilot initiative to provide weather information to farmers through mobile application is underway. These initiatives, however, are yet to be scaled up to benefit larger number of farmers in the country.

The current NDC has not covered the water resource, public health and urban settlement and infrastructure sectors. The study of climate-induced disaster is key to understanding adaptation and loss and damages; however the NDC has not set explicit targets in this area.

Progress in the renewable energy sector can be dubbed inadequate compared to its existing potential. Renewables account for just 3.2 per cent of the total energy consumption. The figure is too low compared to the 20 per cent target set by the NDC for 2020. Only 18 per cent of the population has access to electricity from renewable energy source in the country as against the NDC target, which is 80 per cent by 2050 (GoN, 2019).

The current trend in the transportation sector is also regressive. The percentage of electric vehicles is insignificant (<1 per cent) and the volume of fossil fuel imports has doubled since 2016. No concrete information is available on waste management.

Sectors such as waste management, agriculture and land use, industry, construction and housing are missing in the current NDC even as the greenhouse gas inventory says these sectors are major carbon emitting sectors in the country (TU, 2017).

	Sector	NDC Targets	Present Status
ADAPTATION RELATED SECTORS	AGRICULTURE	Enhance agricultural sector by adopting climate-friendly technologies and reducing climate change impacts.	<p>Development of 13 varieties of drought and submergence-tolerant paddy, two varieties of high temperature-tolerant maize, seven varieties of rust-resistant wheat (NARC, 2019)</p> <p>Development of Mobile Application: Benefitting 48,000 farmers (MoAD, 2019)</p> <p>Agriculture insurance: Total 50,676 insurance policies issued (including crops, livestock and fishes).</p>
	CLIMATE- INDUCED DISASTERS	Address climate-induced disasters in earthquake-affected areas and rebuild Nepal better.	Flood forecasting services are in operation round the clock. They have reduced deaths caused by floods. (GoN, 2018)
MITIGATION RELATED SECTORS	RENEWABLE ENERGY	<p>Change energy mix and energy consumption patterns to promote renewables and achieve 80 per cent electrification through renewable sources.</p> <p>NRREP: reduce dependency on biomass and make it more efficient.</p> <p>By 2020, expand the energy mix focussing on increasing the contribution of renewables by 20 per cent.</p>	<p>NRREP achievements: A total of 400,432 households have biogas plants, 88 of them are large-scale plants. Similarly, 794,276 households are equipped with solar energy systems. A total of 10,654 water mills, 1,701 institutional solar power systems and 41, 090 ICS have been installed. (GoN, 2018)</p> <p>Energy consumption mix: The energy mix now comprises traditional energy (68.6 per cent), commercial energy (28.2 per cent) and renewable energy (3.2 percent). (GoN, 2019)</p> <p>About 18% of the total population has access to electricity from renewable sources (30.6 MW from medium and small hydropower projects and 26.5MW from solar and wind power (GoN, 2019)</p>
	FORESTRY	<p>Maintain forest cover in 40 per cent of the total area of land.</p> <p>Pilot REDD+ project to reduce about 14 million tons of CO₂-eq by 2020.</p>	At present, 40.4 per cent of the total area of Nepal is covered by forests.
	TRANSPORT	<p>By 2020, increase the share of electric vehicles up to 20 per cent as compared to 2010.</p> <p>By 2050, decrease dependency on fossil fuel in the transport sector by 50 per cent</p>	<p>Of the 2,783,428 vehicles registered in Nepal, only 21,000 (0.75 per cent) are electric-powered. (Source: DoTM 2017/18 and EVAN 2018)</p> <p>The volume of fossil fuels i.e petrol and diesel imported to Nepal has doubled since 2016.</p>

POLICY GAP ANALYSIS

The targets and priorities set by the NDC do not fully reflect the priorities of the country's national laws and policies. The targets in the forestry sector focus primarily on mitigation whereas they should have concentrated on both adaptation and mitigation. Similarly, targets in the agriculture sector only deal with adaptation actions even as the national greenhouse gases inventory shows agriculture is one of the major emitting sectors in the country. There must be coherence between sectoral policies and targets and priorities set by the NDC.

The 15th periodic plan declared the country's ambition to graduate from the Least Developed Country (LDC) group by 2022 and achieve the status of a middle-income country by 2030. The plan identified development of an integrated transportation system and network;

generation of hydroelectricity and promotion of green economy; promotion of modern, sustainable and integrated urbanisation; improvements in productivity and enhancement of comparative advantages and quality tourism services as key drivers to achieve the ambition. These drivers are energy-intensive and also vulnerable to climate change. It is of utmost importance to align the NDC targets and priorities with the vision set out in the 15th plan and the long-term development ambition of the country.

The National Climate Change Policy 2019 provides an excellent platform to start the implementation of the NDC in Nepal. The policy prioritizes adaptation, risk aversion and mitigation and low carbon development as the key to building resilience to climate change. It has identified eight sectors with adaptation and mitigation priorities. The NDC must priorities sectors identified by the policy and formulate and set targets to achieve the goals of the policy.

NDC focus sectors		National Policy Focus	Gaps
FORESTRY	Maintain forest cover in 40 per cent of the total area of the country.	Build community resilience through adaptation and mitigation actions.	The forestry sector has high potential for contributing to rural livelihoods and building adaptive and resilience capacity. The NDC needs to focus both on adaptation and mitigation actions.
	Pilot REDD+ project to reduce about 14 million tons of CO ₂ -eq by 2020. (mainly MITIGATION)		
AGRICULTURE	Enhance agricultural sector by adopting climate-friendly technologies and reducing climate change impacts. (mainly ADAPTATION)	Build farmers' resilience to climate change, disasters and other shocks.	The contribution of agriculture to total emissions is significant in the context of Nepal. The NDC also needs to focus on mitigation actions.
		Develop stress-tolerant crop varieties and low methane emitting technologies.	
CLIMATE-INDUCED DISASTER	Address climate-induced disasters in earthquake-affected areas and rebuild Nepal better.	Mainstream DRR and CCA in development planning processes.	Despite various initiatives underway in the DRR sector, the NDC does not have specific DRR targets.
		Prescribe a list of risk- minimization and risk transfer measures.	
RENEWABLE ENERGY	Change energy mix and energy consumption patterns towards more renewable and other economically productive sectors and achieve 80 per cent electrification through renewable energy.	Promote renewable energy thereby reducing dependence on imported fossil fuels.	
	By 2020, expand energy mix focussing on renewables by 20%.	Replace 30 per cent of traditional and fossil fuel consumption with electricity in industrial and commercial sectors by 2030 and replace 50 per cent of traditional cooking stoves with improved cooking stoves (ICS).	
TRANSPORTATION	By 2020, increase the share of electric vehicles up to 20 per cent compared to 2010.	Promote electricity and other renewable energy-powered vehicles and increase the share of electric vehicles to 20 per cent by 2020.	Both the NDC and national policies need to focus on public and mass transportation.
	By 2050, decrease dependency on fossils in transport sector by 50%.	Focus on two-wheeler and three wheeler electric vehicles such as bicycles, motorcycles, rickshaws, and tricycles.	Investment in necessary infrastructure is required to promote use of electric vehicles.

INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION OF NDC

The Ministry of Forests and Environment (MoFE) is the lead government agency for implementation of the NDC. It has a key role to play in coordinating with stakeholders in the implementation of the NDC and documenting, measuring, verifying and reporting progress across identified sectors.

The implementation of the NDC requires the involvement of multiple stakeholders within and outside the government machinery. Key government agencies that need to be involved are: The National Disaster Risk Reduction Management Authority, Department of Hydrology and Meteorology, federal and provincial ministries and agencies under them with the mandate to work in energy, transportation, agriculture, water resources, urban planning, and the development and other relevant sectors. Local governments also have a critical role to play as many priority sectors are now under their jurisdictions according to the constitution and other laws.

Besides the government, development agencies and the private sector have an

important role to play in the implementation of the NDC. Building synergy among these actors will increase the country's total capacity to implement NDC manifold. The government needs to create a conducive environment for development partners and the private sector to work jointly in setting and implementing the NDC targets.

These development agencies, with their wealth of experience, can play an instrumental role in making the NDC implementation process democratic, participatory, transparent and accountable. These agencies are already working in adaptation-related sectors such as agriculture water resources, disaster risk reduction and others.

The private sector can leverage finance for the implementation of the NDC, particularly in the energy, transportation and waste management sectors. Promoting private sector investment in green and clean technology can substantially contribute to meeting NDC targets. The private sector can play an instrumental role in development and transfer of technologies.

The role of development agencies and the private sector in the process of implementation of the NDC needs to be further explored. A multi-stakeholder platform at three levels of government is needed to plan, implement, monitor and report on the NDC.

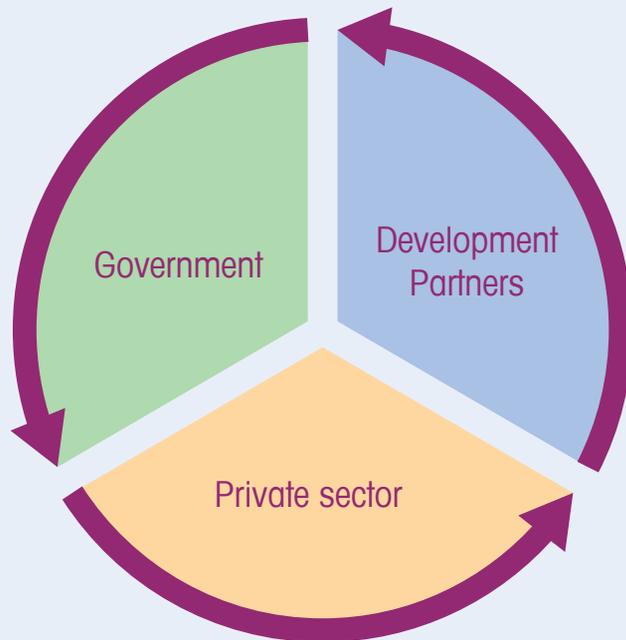


Figure 1 : Stakeholder engagement in implementation of NDC

The current trend in the transportation sector is regressive.

Only 18 percent of the population has access to electricity from renewable energy sources in the country as against the NDC target, which is 80 per cent by 2050.

GENDER PERSPECTIVE IN NDC

Climate Change impacts are not gender neutral and are experienced differently by men and women because of their different social roles, determined by cultural norms, the gendered division of labour, historically rooted practices, power structures and persistent inequalities. Climate change impacts women disproportionately and it also reinforces and escalates existing gender inequalities. Gender inequality can be both a cause and consequence of disproportionate impacts of climate change.

Women's vulnerabilities to the impacts of climate change, therefore, are two-fold: their dependence on natural resources and their lack of access to and control over resources such as finance, land, education, and information. Women, particularly in rural areas, are highly dependent on natural resources for their livelihoods. Due to the lack of access to and control over resources, they are dependent on and their limited participation in decision making process increase victimization of women. Women should be at the frontline of adaptation and resilience-building measures. It is important to integrate voices of both men and women, and to particularly address women's specific needs, interest and concerns when formulating climate-relevant laws, policies, programmes and projects. Gender mainstreaming is fundamental to achieving the twin goals of climate resilience and gender justice.

The NDC must acknowledge the differentiated impacts of climate change on different gender and enhance women's roles in building resilience to climate change. The NDC must also promote gender mainstreaming and gender inclusive and responsive actions. For gender mainstreaming, climate actions must emphasize gender disaggregated vulnerability assessment; address gender specific needs; enhance the capacity of women and women organizations; ensure informed participation of women and women's groups in planning and decision making, and ensure equitable sharing of benefits among gender and to support in balancing gender power relations.

FINANCING NDC

Implementation of the NDC requires a clear financing plan to execute targeted actions. There are three sources to meet the financing gap. Firstly, the government can mobilize domestic revenue to finance NDC actions. Secondly, it can seek international funds. There are several dedicated funds such as the Green Climate Fund (GCF), Adaptation Fund, Least Developed Countries Fund, and Climate Investment Funds (CIF), International Climate Initiatives (IKI) and others, that can finance NDC actions. Besides these funds, the government can access finance from bilateral and multilateral development agencies. Third, the government can leverage national and international private finances by introducing innovating financing instruments like green bonds, climate bonds, public private partnership, blended financing and others.

Estimated funds required to implement the NDC must be calculated with a clear road map to mobilize revenue from all three sources. It is most likely that all activities under the NDC cannot be financed equally in one go. It is recommended that actions be prioritized. Prioritization must consider the overall ambition of the NDC and strike a balance between adaptation and mitigation actions. It is also recommended that a team of experts be established to focus on generating finances for the implementation of the NDC.

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CONCLUSION

The Government of Nepal is preparing to submit its NDC document to the UNFCCC by December 2020. The new NDC must be ambitious and comprehensive, and contribute to the global goal of limiting temperature rise to below 2 degree Celsius. It is also equally important to make the NDC fit-for-implementation. More often than not Nepal makes an excellent policy document, but it seriously lacks in proper implementation mechanism. The NDC must learn from this and clearly spell out implementation strategies in the document itself.

As the NDC cuts across various sectors, its implementation requires coordination and cooperation between different government agencies, development partners and the private sector. A multi-stakeholder platform bringing together government agencies, the private sector, development partners and civil society organisations will be essential at all levels of government to contribute to achieving the NDC targets and track the progress. This platform can help generate ownership, and supplement resources to measure, report on and verifying progress.

Coordination is all the more crucial for alignment between the NDC and boarder development visions and ambitions of the country's sectoral policies and plans. The NDC must be designed as a key policy document that fits in well with Nepal's ambition to graduate to middle-income country. Similarly, coherence with sectoral policies and plans is of utmost importance as implementation of the NDC depends on the performance of sectoral ministries.

Finally, it must not be forgotten that the implementation of the NDC requires finance. The NDC must present an estimate of the finance needed for implementation along with a roadmap to generate the funds from domestic public revenue, and international and private finance.

RECOMMENDATIONS

- ➔ The implementation of NDC requires that it is in coherence with Nepal's development vision and plans as well as with climate change and sectoral policies.
- ➔ NDC's implementation requires clear cost estimation and a roadmap to mobilize domestic and international financial resources.
- ➔ The engagement of multiple stakeholders at the federal, provincial and municipal levels is necessary for NDC to be implemented successfully.
- ➔ The NDC must target a substantial increase in the share of renewable energy in the national energy mix. It should target to achieve 100 per cent renewable in key sectors by 2050.
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- ➔ The NDC must contribute to Nepal's graduation from least developed to middle-income country. A clear development trajectory with an increased contribution of renewable energy needs to be developed.

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Figure 2 : 8 MW Solar Power Plant in Butwal of Ridhi Hydropower Company.
Photo Credit Bhagwati Pandey (Photo taken from Setopati)

Disclaimer:

This briefing paper is a concise version of a research report prepared as a part of a research project entitled 'Policy Gaps and Needs Analysis for the Implementation of NDCs on Adaptation and Loss and Damage in Bangladesh, Nepal and Sri Lanka. It identified and assessed gaps and needs of the existing policies on NDCs implementation in each country. The project is conducted with the financial support of Asia Pacific Network for Global Change Research and implemented jointly by SriLankan Youth Climate Action Network Trust (SLYCAN Trust), International Centre for Climate Change and Development (ICCCAD) and Prakriti Resources Centre. The printing of this publication is supported by BothEnds and GAGGA.

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