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Enhancing adaptation planning for agricultural resilience in Viet Nam:

Linkages between National Adaptation
Plans (NAPs) and Nationally Determined
Contributions (NDCs)

Case study

June 2019



Introduction

In 2015, Viet Nam submitted its Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC). It was succeeded by a Nationally Determined Contribution (NDC) which identifies agriculture as a priority sector for the development of climate change response strategies. The NDC highlights 15 options to enhance mitigation in agriculture and outlines the goal of developing a 'clean and sustainable' sector under its adaptation component.

The exposure of Viet Nam's agriculture sector to climate change is further recognised by its emphasis in the National Adaptation Planning (NAP) process, which seeks to reduce vulnerability to climate change and facilitate the integration of adaptation into development planning, at all levels, in the medium to long term.

While NDCs represent countries' integrated mitigation and adaptation commitments at the strategic level and NAPs allow adaptation priorities to be elaborated and implemented at the operational level, there is now increasing recognition that despite their distinctive characteristics, climate planning instruments – including NAPs and NDCs – should be linked, sequenced and aligned to foster linkages and accelerate climate action.

In Viet Nam, the NAP process, and its alignment with the NDC, are being supported by the 'Integrating Agriculture in National Adaptation Plans' (NAP-Ag) programme through the Ministry of Agriculture and Rural Development (MARD). Co-led by UNDP and FAO, NAP-Ag is a multi-year initiative funded by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). It provides technical assistance to 11 countries in Africa, Asia and Latin America to identify and integrate climate change adaptation measures into relevant national planning and budgeting processes, with a focus on the agricultural sectors.

Experiences and lessons learned from NAP-Ag provide important insights that can inform the update of Viet Nam's NDC and strengthen the coherence and effectiveness of adaptation interventions. This brief provides an overview of the key activities undertaken through the NAP-Ag programme in Viet Nam which are of relevance to the review and update of its NDC, including (i) a stocktaking of Climate Change Adaptation (CCA) practices; (ii) a vulnerability assessment of four key sub-sectors (crops, aquaculture, livestock and irrigation resources) and (iii) an initial study on loss and damage in agriculture.

Climate change risks and the agriculture sector in Viet Nam

In 2018, the agriculture sector accounted for 14.57 percent of Viet Nam's Gross Domestic Product (GDP) (GSO, 2019)¹. 65 percent of the Vietnamese population lives in rural areas, with 35.4 percent reliant on agriculture, fisheries, and forestry as their primary source of income. However, a much larger proportion is dependent on the agricultural sectors for their livelihoods, including informal labour (GSO, 2019). Smallholders, who own less than 0.5 hectares of land, are the major contributors (69 percent) to agricultural output and there are numerous production systems induced by diverse climatic conditions. Rice is the main crop, accounting for 77 percent of harvested land area, followed by maize (11 percent) and coffee (6 percent) (Nguyen, 2017). Together with rubber, Viet Nam is a leading exporter of rice and coffee.

In developing countries around the world agriculture is one of the most vulnerable sectors to climate-related disasters, absorbing approximately 22% of the total loss and damage caused by natural hazards (FAO, 2015). Viet Nam, for example, is highly exposed to disasters such as typhoons, droughts, landslides and flooding and estimates suggest that loss and damage in the agriculture sector accounted for USD 1.7 billion, USD 2.7 billion and USD 0.87 billion in 2016, 2017 and 2018 respectively (MARD, 2018, 2019). The onset of climate change is expected to exacerbate the frequency and severity of extreme weather events, with increasingly negative impacts on the agriculture sector. Agricultural productivity is also threatened by rising salinity levels in soil and groundwater, particularly in the Red River and Mekong deltas and production systems will require a fundamental shift to cope with these effects. This change can take numerous forms including crop diversification, modification of harvesting patterns, optimisation of irrigation systems, and the use of weather information services.

Aligning the NAP and NDC processes in Viet Nam

The Government of Viet Nam (GoV) intends to advance the formulation and implementation of its NAP in 2019 and 2020. As it embarks on this process, coordination, information, data and technical insights generated through the NAP-Ag initiative can contribute to the elaboration of the NAP as well as the review and update of its NDC. Alignment between the NAP process and the revision of the NDC provide an opportunity to harness linkages, enhance the mainstreaming of adaptation goals across climate planning instruments and develop integrated strategies to address climate change. The table below outlines contributions from the NAP-Ag programme to adaptation planning in the agriculture sector and highlights features of the agriculture component in Viet Nam's NDC.

	NAP-Ag's contribution to adaptation planning in the agriculture sector	Agriculture in the Nationally Determined Contribution (NDC)
Institutional Mandate	Ministry of Agriculture and Rural Development (MARD)	Ministry of Natural Resources and Environment (MONRE)
Sectors covered	Under the NAP-Ag, the NAP process was initiated for the agricultural sectors, feeding in to the wider NAP, which will be initiated in 2019.	There are 15 mitigation measures for agriculture in the current NDC. They cover the following sectors: crop, livestock, and aquaculture.
Timeline	Includes medium to long term goals and activities that cover the period from 2021-2030.	Short term. The revised NDC will be submitted in 2020 to the UNFCCC and will be updated every five years.

Table 1: NAP-Ag's contribution to adaptation planning in the agriculture sector vis-à-vis the agriculture component in Viet Nam's NDC

¹ <https://www.gso.gov.vn/default.aspx?tabid=382&idmid=2&ItemID=19041>

Entry points for alignment between adaptation planning under the NAP-Ag programme and the NDC

During the drafting of Viet Nam's NDC, it became apparent that developing successful adaptation strategies for the agricultural sectors requires continuous technical support. The NAP-Ag programme was chosen to provide this support to MARD and develop recommendations for sectoral planning and budgeting under the NDC. To address these needs and generate the evidence required for the update of the NDC, NAP-Ag undertook a stocktake of CCA practices, an assessment of vulnerability and climate risk and an evaluation of loss and damage in agriculture. These studies contribute to the knowledge base that will inform the adaptation component in the review and update of the NDC and they will also provide the foundational basis for further work to elaborate Viet Nam's NAP.

(i) Stocktaking of CCA practices

An extensive stocktaking exercise was conducted in order to identify available information, address gaps, and start drafting a sectoral roadmap. Existing data on adaptation planning in the agriculture sector was fragmented across ministries, regions, provinces and localities and it was thus necessary to consolidate information through a systematic review. This facilitated the identification of climate change risks, best-practices, and adaptation measures to inform the NDC update process and enabled evidence-based prioritization of adaptation options. The report took stock of structural (124) and non-structural² (907) CCA projects in agriculture and demonstrated the imbalance between these measures with over 63 percent of funds being allocated to improving the resilience of large infrastructure projects.

The stocktaking exercise led to the recommendation that these two types of measures should be integrated to achieve low-carbon sustainable development. To cope with sea level rise, CCA interventions in the field of aquaculture were put forward, focusing on practices that combine two or more commodities (e.g. rice-fish, mangrove-shrimp-crabs). In 2015, for example, there were over 680,000 hectares of rice-aquaculture and 180,00 hectares of mangrove-shrimp production in the Mekong Delta. These practices yielded high adoption rates among coastal populations due to the additional income they bring and were recommended for inclusion in the upcoming NAP. Similarly, the System of Rice Intensification (SRI) outperforms traditional farming, reduces the use of inputs and fertilisers, decreases the occurrence of pests and diseases, while increasing yields and profits by an average of 15-35 percent. As a result, over 1.9 million farmers were practicing SRI in 29 provinces in 2014 (Nghia, 2017).

² Structural measures include the improvement of irrigations systems, disaster risk management and infrastructure development, while non-structural measures focus on the development of new crop varieties, changes in land management etc.



The report further recommended that an in-depth analysis of the impacts of climate change on agricultural productivity, as well as a vulnerability assessment for all sub-sectors be completed. It emphasised the need to develop a unified and overarching framework to mainstream CCA in agriculture in line with the Plan for Implementation of the Paris Agreement (PIPA) and highlighted long-term capacity development as a key area for ongoing support. A survey conducted with local authorities also outlined the need for capacity building and training on Climate-Smart-Agriculture (CSA) practices as well as the tools to identify and implement the most appropriate adaptation options.

The stocktaking exercise not only consolidated and collated information, it also undertook a gap analysis. Gaps identified included the lack of coherence between climate change and agricultural policies, lack of financial mechanisms to scale-up successful models/pilot programmes, lack of technical capacity to understand risks, and modest private sector involvement. In addition, experts recognised the need to complement the findings with traditional, indigenous knowledge, and an understanding of local contexts. The results of the stocktake are available on a dedicated website³ which is regularly updated as new information is gathered.

(ii) Assessment of vulnerability and climate risk

During the NDC drafting process, policymakers identified the lack of consistent climate data as an impediment to prioritising programmes and making risk-informed decisions. Recognising that MONRE, MARD, and the Ministry of Planning and Investment (MPI) have different priorities and needs in terms of tools and scientific evidence, UNDP developed the *Viet Nam Climate Risk*⁴ website as an open-source knowledge platform. The aim was to deepen the understanding of climate risks, while ensuring that practitioners have access to a high-quality database. This comprehensive platform was built on, and complemented the findings from, the SREX-VN report⁵. Climate risk indices were developed by combining numerous data sources such as climate change and hazard maps, vulnerability indices, and socio-economic statistics. Under the auspices of MARD, discussions between national and international experts took place to select indicators and allocate their weightage for the calculation of vulnerability. A primary output of this activity was the development of a common methodology to assess the vulnerability of four key agricultural sectors prioritised by MARD: crops, livestock, aquaculture, and irrigation infrastructures (The, 2018).

(iii) Evaluation of loss and damage in agriculture

Loss and damage are defined as the climate change impacts that are beyond the limits of adaptation. Ensuring that long-term climate change impacts are considered in national adaptation planning is key for managing risks and delivering cost-effective adaptation investments. This study sought to develop a conceptual framework to assess climate change L&D in agriculture and a comprehensive L&D database, explore how climate change L&D can be integrated in project and policy design and examine the financial tools that are available to mitigate and share risks. As the first of its kind, this study was initiated by reviewing the existing databases using statistical data from the Viet Nam Disaster Management Authority (VDMA), the Central Steering Committee for Disaster Prevention and Control (CSCNDPC) and the General Statistics Office (GSO). It was revealed that the lack of disaggregated data by type of hazards, limited availability of consistent historical data and the compartmentalisation of information between ministries were impeding the monitoring of L&D. The preliminary results corroborate that climate change, in the form of sea level rise and drought, constitutes a severe threat to Viet Nam's agricultural sectors. For instance, a 22 cm sea level rise, in the absence of adaptation, would reduce cultivable land by 1 million hectares compared to a 2004 baseline situation. Due to sea level rise, the rice output in the Mekong Delta is also projected to decrease and almost a third of Viet Nam's railway network is at risk of being inundated if sea levels rise by 1 metre without adaptation. Factories are also at risk of submergence during high tides and heavy rainfalls in 20 provinces, specifically in the area around Ho Chi Minh City (Khoi, 2018). The insurance sector is likely to play a key role in Viet Nam as it will increasingly provide coverage for partial L&D that is unavoidable. As the sector grows, it will be crucial to direct such investments towards a more resilient economy, for example in climate-proof infrastructure. Findings from this study provided a clearer picture of what agricultural sectors would look like in the near future, particularly without adaptation action. Initial results were shared with national experts preparing the NDC to inform their prioritisation of adaptation options. However, numerous methodological challenges remain, and a follow-up study is underway to address them.

³ csa.mard.gov.vn

⁴ <http://eng.climaterisk.org.vn/>

⁵ Viet Nam Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation, 2015.

Lessons learned

Ongoing efforts to build capacity and develop tools for adaptation planning increase efficiency and optimise resource allocation

The need for capacity building within ministries was recognised at the onset of the NAP-Ag process and continuous support for policy makers was provided to enhance their ability to integrate the latest climate science, research findings, and tools into planning processes. This helped Viet Nam to strengthen capacity, increase efficiency, avoid duplication of efforts, and maximise the use of limited resources. The studies undertaken under the NAP-Ag constitute a solid knowledge base that has mobilised a range of sectoral experts. In addition, new tools and methods have been developed that raised the profile of adaptation at the policy level.

Alignment between NAPs and NDCs can be enhanced through formal and informal collaboration

In order to strengthen coordination mechanisms for the sharing of information and findings, Viet Nam used a mix of strategic coordination and informal collaboration. Together with other development partners, MARD organised a series of workshops and conferences to share findings and receive reviews and comments while informal collaboration occurred due to the overlap between research institutes working with the NAP-Ag programme and the NDC review. Overall, stakeholders demonstrated a high level of engagement and willingness to share results, which facilitated alignment.

Institutional coordination and linkages between NAP-Ag and the NDC update increased coherence between policy frameworks

In terms of institutional mandates, MARD was the lead agency coordinating the NAP-Ag, while MONRE is responsible for overseeing the NDC update. Findings from the NAP-Ag are therefore endorsed by MARD, before going to MONRE. Linking the NAP-Ag programme and the review and update of the NDC has helped the GoV to strive for consistency and coherence across policy frameworks which in turn facilitate co-benefits and synergies between adaptation and mitigation targets. However, it is important to note that the NDC and NAP have different characteristics and timelines and it will be crucial to continue aligning the strategies and plans outlined in the future NAP with the commitments made in the NDC. The NAP-Ag was the first step in this direction.

'Test and trial' approach used in the agriculture sector can inform overall adaptation planning.

The 'test and trial' approach used in adaptation planning for the agriculture sector enabled the GoV to recognise pitfalls and challenges that can be disseminated as good practices and lessons learned across all sectors during the overall NAP process.





Way forward

Lessons learned from the NAP-Ag programme indicate that:

- (1) Information and risk assessment for adaptation planning within sectors and cross-sectors will require greater investment.
- (2) Coordination within and across sectors is key and should include both formal arrangements but also provide enabling environments to foster informal exchange between technical staff as they undertake specific tasks.
- (3) Building capacity of sectoral experts on climate change adaptation will be essential for identifying adaptation options at scale. This includes capacity for risk assessment but also economic valuation of impacts, losses and damages.
- (4) Integration of adaptation into sectoral planning and budgeting processes is required to operationalise adaptation priorities.
- (5) Climate planning instruments such as NDCs and NAPs need to be sequenced and build on each other. Ultimately both need to be nested, integrated and operationalised through development plans and budgets.
- (6) Translating sectoral priorities to provincial and local implementation on the ground is essential. Equally important are the feedback loops - lessons from implementation should inform future iterations of the NDCs and NAP.

Conclusion

The NAP-Ag programme has supported the GoV with improved data on climate risks, vulnerability assessments, CCA and loss and damage in the agricultural sector. Findings from these activities facilitated the prioritisation of adaptation options and they can be used to inform the review and update of Viet Nam's NDC. The programme focused on enhancing technical capacity for data analysis, integrating climate change into national and sectoral plans, and developing monitoring and evaluation mechanisms consistent with the NDC. However, support from development partners is still needed to enhance resilience through evidence-based adaptation planning processes that ultimately lead to the development of integrated climate change response strategies.



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Acknowledgement

This publication was made possible by the 'Integrating Agriculture in National Adaptation Plans (NAP-Ag)' programme, led by the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Development Programme (UNDP), with generous support from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).

The views expressed in this publication are those of the authors and do not necessarily represent the views of UNDP, FAO, MARD and BMU.

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Supported by:



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

based on a decision of the German Bundestag