CTCN
CLIMATE TECHNOLOGY CENTRE & NETWORK

CTCN Technical Assistance
Request Submission Form

Please fill in the form in the grey spaces, by following the instructions in italic.

Requesting country:	*Vietnam*

Request title:	Cost-benefit Assessment of Mitigation Options in Rice Production: Data compilation, tools and training within the Vietnamese context (CARP-Viet)

Contact information:

{Please fill in the table below with the requested information. The request proponent is the organization that the request originates from, if different from the National Designated Entity (NDE).}

	National Designated Entity	**Request Applicant**
Contact person:	*Mr. Pham Van Tan*	*Dr. Tran Dai Nghia*
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Technology Needs Assessment (TNA):

{Select one of the three boxes below:}

☐ *The requesting country has conducted a TNA in 2012*
☐ *The requesting country is currently conducting a TNA*
☐ *The requesting country has never conducted a TNA*

{If the requesting country has completed a TNA, please indicate what climate technology priority this request directly relates to. Please indicate reference in TNA/TAP/Project Ideas.}

CTCN Request Incubator Programme:

{Please indicate if this request was developed with support from the Request Incubator Programme:}

☐ *Yes*
☐ *No*

Geographical focus:

{Select below the most relevant geographical level for this request:}

☐ *Community-based*
☐ *Sub-national*
☐ *National*
☐ *Multi-country*

{If the request is related to the sub-national or multi-country level, please indicate here the areas concerned (provinces, states, countries, regions, etc.)}

Theme:

{Select below the most relevant theme(s) for this request:}

☐ *Adaptation to climate change*
☐ *Mitigation to climate change*
☐ *Combination of adaptation and mitigation to climate change*

Sectors:

Agriculture sector in Vietnam; subsector: rice production

Problem statement *(up to one page):*

In Sept. 2015, the government of Vietnam has submitted the Intended Nationally Determined Contribution (INDC) to the UNFCCC (source, see below) as a basis to discuss future climate change policy at the COP21 in Paris and the forthcoming negotiations. The INDC from 2015 include both unconditional and conditional mitigation contributions. Unconditional contributions are based on domestic resources and will sum up to a reduction of 8% by 2030 compared to the Business as Usual scenario (BAU). Conditional contributions will require additional international financial support, technology transfer and capacity building with a mitigation target of up to 25%.

As for many other Asian countries, Vietnam's INDC explicitly mentions rice production as one of the targets for mitigation in the agriculture sector. However, the specifics of mitigation measures are only described in a very generic fashion. In the case of reducing GHG emissions from agricultural production, the INDC states "research and apply production processes and economic technologies that efficiently use seedlings, feed, agricultural materials, soil, water, and other inputs". Likewise, the INDC only mentions methodologies to estimate GHG emissions, but does not give any notion on assessing the costs and benefits of potential mitigation measures.

In recent years, there was ample literature published on the costs of mitigation options vis-à-vis the costs for implementation. At national scale, the assessments have often been captured in 'Marginal Abatement Cost Curves' (MACCs) that show the cost per unit of carbon (as y-axis) and the mitigation potentials (as x-axis). However, it is widely accepted that the existing MACCs for the agriculture sector are too crude (typically derived in a top-down approach without site-specific verification). By the same token, the costs of a given option will vary over time as a function of markets, demographics and technology

development. In turn, MACCs have to be seen in a much more dynamic fashion that allows a rapid updating in response to socio-economic and technological changes.

After the recent successful COP 21 in Paris, rice producing countries like Vietnam turn their attention to the various options of reducing emissions as part of sustainable development strategies. Decision-makers at various levels are increasingly in need of information about options for mitigation in rice production to make informed decisions on the challenges posed by climate change. Meanwhile, newly developed tools -- such as GHG calculators composed of user-friendly EXCEL work sheets -- may become instrumental in guiding decision making. However, these GHG calculators are limited to bio-physical factors and do not include any options for considering socio-economic data – nor as input neither as output of the computation routines. In order to make these tools applicable for decision making, it seems imperative to supplement the socio-economic dimension of mitigation programs and also to translate them into Vietnamese.

This concept note addresses key obstacles in the adoption of mitigation options, namely the lack of data and usable tools for assessing possible benefits in terms of emission reduction vis-à-vis the potential socio-economic impacts. The envisaged activities comprise the development of a data sets and tool specifically tailored for the rice subsector in Vietnam. This GHG source accounts for 50% of the emissions from the agriculture sector and 18% of the entire GHG emissions of Vietnam (data from Biennial Updated Report in 2014, see below). It should further be noted that the mitigation technologies in rice production are much more matured than the technological options for any other crop or subsector within the agriculture sector. Thus, improved data sets and tools target one of the most promising avenues for mitigation in Vietnam – in terms of feasibility as well as dimension. Given the ample relevance of the topic, this TA may in the future lead to similar initiatives in other countries of the region.

Past and ongoing efforts *(up to half a page):*

The proponent of this TA (IPSARD) is directly involved in two projects dealing with mitigation in the rice subsector of Vietnam. The actual request has been triggered by the desire to make the outputs of these projects more tangible and relevant for the implementation of mitigation programs:

1) Policy Information and Response Platform on Climate Change and Rice in the ASEAN and its member countries (PIRCCA) project has been operating in Vietnam since 2014. The main goal of the PIRCCA project is to bridge the gap between science and policy and enable policy makers to make informed decision on climate change. In its initial stage the project documented the key stakeholders, engagement mechanisms, national priorities and knowledge gaps in climate change. This documentation has led to initiate the development of knowledge on mitigation options for policy by profiling climate change information to the need of specific stakeholders.

2) The Climate and Clean Air Coalition to reduce short-lived climate pollutants (CCAC) has the goal to support large-scale implementation of mitigation technologies in rice production through its paddy rice work stream. Starting work in Vietnam in January 2015, the project has identified region-specific opportunities and barriers for out scaling of mitigation options, mapped out stakeholder networks including their level of influence on adoption. The CCAC initiative has also generated suitability maps (in GIS format) for water-saving technologies, although these maps are at this point only the bio-physical feasibility and not the economic viability of these mitigation options.

{Please describe here past and on-going processes, projects and initiatives implemented in the country to tackle the difficulties and gaps explained above. Explain why CTCN technical assistance is needed to complement these efforts, and how the assistance can link or build on this previous work.}

Assistance requested *(up to one page):*

The project goal is to enable a wide range of stakeholders – from farming communities to policy makers -- to assess costs/ benefits of mitigation options as a mean to prioritize suitable technologies for adoption and define investment portfolios and policies for Vietnam rice production.

The requested assistance can be summarized in three main activities:

Activity 1: *Development of an interactive and dynamic tool to calculate cost and benefits of mitigation actions in rice sector.*

- Conducting a comprehensive literature search (incl. 'grey literature' such as project reports) on relevant data for mitigation in rice production and related topics
- Developing a comprehensive and interactive tool for calculating GHG emissions and assessing cost-benefit of mitigation options in rice production at field level (based on existing GHG calculators translated into Vietnamese)
- Establishing a prototype MACC for Vietnamese rice production that allows easy updates and expansions in response to ongoing changes in market prices and technologies
- Developing a step-wise procedure/methodology for generating data and information necessary for establishing the MACC in rice production
- Consolidate the tool in a system which should be open for updates and refinements.

Activity 2: *Development of GIS analysis, maps and layers on rice production focusing on assessments and findings of "socio-economic suitability" for rice production to be embedded into already existing GIS maps.*

- Compiling a suitability map for Alternate-Wetting-and-Drying in Vietnamese rice production, namely by adding an additional GIS-layer on 'socio-economic suitability', soil and 'irrigation infrastructures' information to the existing GIS map on climatic suitability coming from the CCAC initiative (see above)
- Develop suitability maps for other mitigation and Climate Smart Adaptation options.
- Establishing web-based sources for providing access to services for project-generated information and prioritization tools for a wide range of stakeholders

Activity 3: *Capacity development and dissemination of information on the application of MACCs and GIS assessment.*

- Conducting regular capacity building training workshop for local and national stakeholders on the developed tool and practical cases studies to inform policy
- Empowering national research scientists in using the proposed tool and methodologies to inform policy makers
- Developing a platform of information exchange and learning between users and practitioners
- Presenting project findings in a comprehensive form (incl. 'lessons learnt') and disseminate these findings in rice-growing countries of the region and the ASEAN community
- Promoting a south-south cooperation to allow this pilot example in Vietnam to be replicated in other ASEAN countries

Expected benefits *(up to half a page):*

The main beneficiaries of the TA are from national and governments as well as research and extension services in Vietnam:

- The proposed tool will enhance capacity of NARES to make reliable cost-benefit assessment of mitigation options in rice production to inform policy makers
- Using reliable data on GHG emissions and cost-benefit assessment of mitigation options will allow better targeting and upscaling of mitigation practices, in particular AWD and related technologies
- Implementing relevant mitigation options recommended by the proposed tool will contribute to attain the targets set by the government of Vietnam in the 2015 INDC.
- Improving the future National Communications of Vietnam to the UNFCCC by facilitation substantiated statements in chapter 'mitigation' for the most important subsector within the GHG inventory of the country
- Policy makers and NARES in other ASEAN countries will be provided valuable information on the possible strategy to improve decision making on mitigation projects

Post-technical assistance plans *(up to half a page):*

The proposed tool will be updated as needed in response to ongoing changes in market prices and technologies. IPSARD will maintain and update the proposed tool and share it with other stakeholders. The tool will also be publicly available through different online portals.
Case studies will be implemented using the proposed tool to communicate with policy makers as a means for paradigm adjustment in climate change policy.
National and provincial policy makers (mainly from MARD and provincial DARDs) will use the tool and socio-economic suitability maps for planning purposes in order to achieve mitigation commitments laid out in Vietnam's INDC.

{Please describe here how the results of the CTCN technical assistance will be concretely used by the applicant and national stakeholders, to pursue their efforts of resolving the problems stated above after the completion of the CTCN intervention (list specific follow-up actions that will be undertaken).}

Key stakeholders:

{Please list in the table below the main stakeholders who will be involved in the implementation of the requested CTCN technical assistance, and what their role will be in supporting the assistance (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.). Please indicate what organization(s) will be the main/lead counterpart(s) of CTCN experts at national level, in addition to the NDE.}

Stakeholder	Role to support the implementation of the assistance
Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD)	• Work closely with the entity selected to provide the technical assistance and ensure coordination of activities at the national and local levels. • Identify the key stakeholders and ensure a participatory approach in generating data on the calculation of GHG emissions and cost-benefit assessment of mitigation options.

	• Oversee the maintenance and updating of the proposed tool • Organize capacity building training activities at the local, national and regional levels
Ministry of Agriculture and Rural Development (MARD)	• Ensure the participation of stakeholders in the project at the national level • Assist IPSARD and the entity chosen for the technical assistance by providing data and relevant information for the calculation of GHG emissions and cost-benefit assessment of mitigation options.
Ministry of Natural Resources and Environment (MONRE)	• Ensure coordination with on-going mitigation projects in Vietnam • Ensure the participation of stakeholders in the project at the national level • Assist IPSARD and the entity chosen for the technical assistance by providing data and relevant information for the calculation of GHG emissions and cost-benefit assessment of mitigation options.
Departments of Agriculture and Rural Development (DARDs) and local governments (provinces, communes	• Ensure the participation of local stakeholders in the project • Provide data and relevant information for the calculation of GHG emissions and cost-benefit assessment of mitigation options applied in the provinces when requested • Facilitate data collection at the field level

Alignment with national priorities *(up to half a page):*

{Please demonstrate here that the technical assistance requested is consistent with documented national priorities (examples of relevant national priorities include: national development plans, poverty reduction plans, technology needs assessments (TNAs), LEDS, NAMAs, TAPs, NAPs, sectorial strategies and plans, etc.). For each document mentioned, please indicate where the priorities specifically relevant to this request can be found (chapter, page number, etc.).}

The technical assistance requested through this concept note aligns well with Vietnam's INDC (see below). Indeed, as part of the measures to achieve the GHG emissions mitigation targets, the Vietnam government proposed in the INDC to develop national GHG inventory system; establish systems for measuring, reporting and verification at the national and sectoral levels in order to monitor and supervise GHG emissions activities. The government also proposed to enhance cooperation in scientific research, information exchange on the formulation and implementation of policies; and remained open to the support of international organizations in finance, capacity building and technologies in the implementation of climate change strategies and policies.
This Request for Technical Assistance is also in line with Vietnam's efforts on restructuring the rice sector.

Development of the request *(up to half a page):*

{Please explain here how the request was developed at the national level and the process used by the NDE to approve the request before submitting it (who initiated the process, who were the stakeholders involved and what were their roles, and describe any consultations or other meetings that took place to develop and select this request, etc.)}

This request was initiated by the Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD) as part of the consultations meetings during the drafting of the proposal for restructuring of the Vietnamese rice sector. IPSARD has been involved in initiatives as described in the section "past and ongoing efforts" and identified the lack of an economic assessment of mitigation options as a shortcoming in the planning process for low emissions strategies in the rice sub-sector. CTCN was found to be the appropriate institution to contact in order to fill this knowledge gap.

Expected timeframe:

August 2016 to August 2017

Background documents:

Intended Nationally Determined Contribution of Viet Nam.
http://www4.unfccc.int/submissions/INDC/Published%20Documents/Viet%20Nam/1/VIETNAM'S%20INDC.pdf

Initial Biennial Updated Report of Viet Nam submitted to the UNFCCC in 2014.
http://unfccc.int/resource/docs/natc/vnmbur1.pdf

{Please list here relevant documents that will help the CTCN understand the context of the request and national priorities. For each document, provide web links if available, to attach to the submission form while submitting the request. Please note that all documents listed/provided should be mentioned in this request in the relevant question(s), and that their linkages with the request should be clearly indicated.}

Monitoring and impact of the assistance:

{Read carefully and tick the boxes below.}

☒ By signing this request, I affirm that processes are in place in the country to monitor and evaluate the assistance provided by the CTCN. I understand that these processes will be explicitly identified in the Response Plan in collaboration with the CTC, and that they will be used in the country to monitor the implementation of the CTCN assistance.

☒ I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDE name: Pham Van Tan

Date: 1 August 2016

Signature:

THE COMPLETED FORM SHALL BE SENT TO THE CTCN@UNEP.ORG

Need help? The CTCN team is available to answer questions and guide you through the process of submitting a request. The CTCN team welcomes suggestions to improve this form.
Contact the CTCN team at ctcn@unep.org