CTCN
UN Climate Technology Centre & Network
UNFCCC Technology Mechanism

CTCN Technical Assistance
Request Submission Form

Guidelines:

- This Request Submission Form should be completed by the organisation requesting technical assistance from the Climate Technology Centre & Network (CTCN) in collaboration with the National Designated Entity (NDE) of the country in question
- The Form must be signed by the NDE. Please see updated contact list of NDEs here: http://unfccc.int/ttclear/support/national-designated-entity.html
- The Form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an un-signed Word file
- For requests submitted by multiple countries, all the NDEs of the respective countries shall sign identical Forms before official submission to the CTCN
- NDEs have the opportunity to submit CTCN requests in collaboration with National Designated Authorities (NDAs) for the Green Climate Fund (GCF) if targeting the GCF Readiness Programme.

Requesting country or countries:	Viet Nam
Request title:	Please reflect the objective of the technical assistance in the title (maximum 200 characters). Establishment of an integrated salinity intrusion data sharing system for adaptation to the climate change impacts in the Mekong Delta of Viet Nam
NDE	Please add name of organisation, name of individual, position, email and address. National Designated Entity: Ministry of Natural Resources and Environment of Vietnam. Address: No. 10 Ton That Thuyet street, Nam Tu Liem district, Hanoi, Vietnam Focal point: Mr. Pham Van Tan, Deputy Director General, Department of Meteorology, Hydrology and Climate Change Telephone: +84-24-37955116, +84-24-37759770, E-mail: pvtan11@gmail.com
Request Applicant:	Please add name of organization, contact person, position, email and address of the organization requesting assistance from the CTCN. Requested organization: Viet Nam National Mekong Committee Contact person: Dr. Truong Hong Tien, the Deputy General of the Viet Nam National Mekong Committee. Telephone: +84-981257395 E-mail: thtien652004@gmail.com

Climate objective:

- ☐ Adaptation to climate change
- ☐ Mitigation of climate change
- ☒ Combination of adaptation and mitigation of climate change

Geographical scope:

- ☐ Community level

☒ Sub-national

☐ National

☐ Multi-country

If the request is at a sub-national or multi-country level, please describe specific geographical areas (provinces, states, countries, regions, etc.).

The Project Area is the Mekong Delta of Viet Nam, including 13 provinces and cities, covering a population of about 17 million people.

Problem statement related to climate change (up to one page):

This section should answer the question "what is the problem?" Please summarise the problem related to climate change and/or the negative impacts of climate change in the country that the request aims to address.

Viet Nam is one of the countries most vulnerable to climate change in the world

Viet Nam, with its population of 100 million people, has been ranked among the five countries most vulnerable to climate change, and is amongst top 6 countries already affected by extreme weather events over the last 2 decades[1]. The impacts of climate change are felt acutely by the communities and national economy – it is estimated that in 2020, Viet Nam lost about $10 billion or 3.2 percent of its gross domestic product, to climate impact. The impacts of the extreme weather events are expected to accelerate rapidly, and early estimates indicate that without proper adaptation and mitigation measures, the changing climate will cost Viet Nam about 12 percent to 14.5 percent of GDP a year by 2050 and could plunge up to one million people into extreme poverty by 2030[2].

Viet Nam Mekong Delta: a hotspot for climate vulnerability

Viet Nam's Mekong Delta (VMD) is the third largest delta on Earth, and currently home to 17 million inhabitants, whose livelihoods depend mainly on agricultural and aquacultural production. Rice production has a particularly vital role for the country in terms of food security, rural employment and foreign exchange, employing two-thirds of the rural labour force and making Viet Nam as consistently one of the world's largest rice exporters[3].

Indeed, the VMD has an extremely low-lying delta plain, with an average elevation of ~80 cm. Therefore, it is extremely vulnerable to even small changes in relative sea level, which arise from the cumulative effect of global sea level change and local vertical land movements (e.g. land subsidence). The VMD currently faces high levels of land subsidence, up to 5 cm/year in some places, mainly driven by groundwater extractions. Should the rate of extraction remain at present-day level, the cumulative subsidence combined with sea level rise could cause the majority of the delta to fall below sea level by the end of this century – a critical threat to the communities and regional food security.

Salinity intrusion - one of the key climate-related threats to livelihoods and food security in VMD

From 2015 up to now, the Mekong River basin has had consecutive years of intense dry seasons, which lead to saline intrusion going deeper into the mainland, causing great damage to environment and lives. The dry season in 2019-2020 and the related drought and saltwater intrusion in the Mekong Delta are considered to be the most severe in history, even more severe than the dry season 2015-2016.

It is forecasted that in the coming years, water resources to the Mekong Delta will continue to face the above challenges. Specifically, the upper Mekong countries continue to implement water exploitation

[1] Global Climate risk Index 2020
[2] Vietnam Country Climate and Development Report, World Bank, 2022
[3] Vietnam Climate Risk Country Profile, ADB and WB, 2020

and use plans to serve their economic development goals, including mainstream and tributary hydropower development, expansion of agricultural irrigated areas, and diverting water out of basins. Climate change will make extreme weather events more severe, including increasing frequency of droughts and floods, and the intensity and extent of saline intrusion is rapidly increasing.

Recent reports estimate that without adaptation measures, around 45% of the Mekong Delta area will be affected by salinity, at an economic cost of about $17 billion by as early as 2030[4], underlining the urgency of addressing the issue.

Saline intrusion has also been highlighted in Viet Nam's Nationally Determined Contribution document (NDC) submission to the UNFCCC, in 2020, as one if the climate change impact key areas affecting water resources and agriculture sectors.

Past and on-going efforts to address the problem (up to half a page):

This section should answer the question "what has been done or is currently being done to address the problem?" Please describe past and on-going processes, projects or initiatives implemented in the country or region to tackle the climate problem as described above.

On December 5, 2011, the Prime Minister approved National Strategy on Climate Change Adaptation by Decision 2139/QD-TT. The strategy has set a common objective, 4 specific objectives and 10 task groups. Subsequently, on October 5, 2012, the National Action Plan on Climate Change for the period of 2012-2020 was also issued in Decision 1474/QD-TTg of the Prime Minister to implement the tasks of the Strategy, specifically in the 2012-2020 period, 65 programs, projects and tasks related to climate change were carried out. In which, task group number 3 in 10 task groups is "Actively responding to sea level rise that are appropriate for vulnerable areas", which is closely related to saline intrusion in the VMD. The following programs of the task group #3 have been implemented:

- Activities of forecasting and assessing impacts due to sea-level rise have been implemented. The ministries, branches and localities have carried out research and assessed the impact of climate change;

- Climate change and issues to cope with saline water intrusion, especially in the Mekong Delta, South Central region, have been integrated in the 5-year National Socio-Economic Development Plan 2016-2020.

- Planning of residential areas to cope with climate change, the system of residential clusters and lines over floods in the Mekong Delta has been implemented.

On a policy level, the climate change issues is also increasingly urgent. Recently, on 26 July 2022, the the Prime Minister approved National Strategy on Climate Change Adaptation Period to Year 2050 by Decision 896/QD-TT. In that:

1. Adapting to climate change and realizing the "zero" net emission target is an opportunity for sustainable development, the highest priority in development decisions, the highest ethical standards at all levels. , industries, businesses and people.

2. Responding to climate change is carried out on the principles of justice and equity, with a global and universal approach; based on synchronous institutions, effective and effective policies and laws, science, technology and innovation, promoting internal resources and international cooperation; contribute to building and developing an independent and self-reliant economy, actively integrating.

3. Responding to climate change is the responsibility of the entire political system, each individual and the whole society. The State plays a constructive and leading role; People and businesses play a central role and are the subject of implementation with the effective participation of socio-political organizations.

4. Implement urgent solutions to reduce vulnerability and strengthen resilience to the impacts of climate

[4] Vietnam Country Climate and Development Report, Wolrd Bank, 2022

change; giving the highest priority to ensure safety and livelihoods for people in areas at risk of being severely affected; focus on developing infrastructure to respond to climate change and energy transition based on the potential and advantages of the region.

5. Concentrating resources on responding to climate change, developing financial mechanisms, carbon markets, promoting investment shift for low-emission economic development; promote the State's resources, promote the attraction of resources of organizations, enterprises, individuals and international resources, promote public-private cooperation on the basis of equality, cooperation and mutual benefit.

Specific technology[5] barriers (up to one page):

This section should answer the questions "what are the technology barriers that hinder national efforts described above" and "how will the CTCN technical assistance complement these efforts?" Building upon the problem statement and taking into consideration the existing efforts described above, please describe the specific technology barriers encountered by the requesting applicant to identify, assess or deploy climate technology(ies) in an effort to address the problem statement. The described barriers should be within the scope of the requested CTCN technical assistance (described in the section below).

Despite the great results in the implementation of measures to prevent and adapt to climate change, in the past years, the Mekong Delta still faces great difficulties. The NDC document from 2020, specifically highlights the strong need for technology (including capacity) in Viet Nam to cope with the climate change impacts, especially the need for advanced technology in climate change and hydro-meteorological monitoring and forecasting, early warning of natural disasters and hazards, and technology for structural and non-structural climate change adaptation measures[6]. This includes the institutional and technological capacities to effectively monitor, disseminate and operationalize data and information related to salinity intrusion.

For example, in previous years, although the dry season flow was early forecasted, there was still significant damage to the crops and livelihoods. The cause of this issue was determined to be the lack of monitoring and forecasting of the salinity data (in addition to the flow data), leading to lack of timely and effective operation of saline prevention works in the VMD. These experiences proved that forecasting and warning of water resources data which include salinity data are vital for climate preparedness and development of the Mekong Delta.

Salinity monitoring systems throughout the Delta have been invested recently, but are currently scattered in many different agencies, including the Ministry of Natural Resources and Environment; Natural Resources and Environment Department and Agriculture and Rural Development of the provinces in the VMD, saltwater control construction operators, farmers, and other actors.

Despite the existence of the relatively high numbers of salinity monitoring stations in the VMD, they are also managed by differenced agencies which presents a number of limitations, including following:

- *There is no general technical regulation for all salinity monitoring units, different monitoring equipment and technologies, the method of sampling, choosing the monitoring position is also different, the monitoring time is not consistent, leading to inconsistent monitoring results.*
- *The observed data is un-synchronous and managed by different agencies, resulting in a lack of an effective database and data sharing system which leads to ineffective operation of the saline control sluice system.*
- *The un-centralized management of monitoring data is the cause of ineffective prediction and warning of salinity.*

[5] *"**any equipment, techniques, practical knowledge and skills** needed for reducing greenhouse gas emissions and adapting to climate change" (Special Report on Technology Transfer, IPCC, 2000)*

Combined, these challenges lead to ineffective utilization of the existing physical monitoring stations, and lack of effective communication of data to those that are able to make decisions and take timely and coordinated action to respond to salinity hazards and prevention.

For better management of water resources in the VMD, the recently established Cuu Long River Basin Committee, an inter-agency under the Viet Nam National Mekong Committee was established to help the Prime Minister manage water and related resources in the Viet Nam Mekong Delta.

One of the tasks assigned to the Cuu Long RBC is to establish a water resources database including: water quantity, water quality, salinity and sediment, etc. Due to the limitations on financial and technical resources, this task has not been fully implemented, yet the need to address salinity intrusion is urgent.

There is a particularly pressing need to establish the database on salinity intrusion that consolidates the data gathered by the monitoring stations, which has not been conducted yet with the above-mentioned difficulties.

Sectors:

Please indicate the main sectors related to the request:

☒ Coastal zones	☒ Early Warning and Environmental Assessment	☐ Human Health	☐ Infrastructure and Urban planning
☐ Marine and Fisheries	☒ Water	☒ Agriculture	☐ Carbon fixation
☐ Energy Efficiency	☐ Forestry	☐ Industry	☐ Renewable energy
☐ Transport	☐ Waste management		

Please add other relevant sectors:

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches

☒ Communication and awareness	☐ Economics and financial decision-making	☒ Governance and planning	☒ Community based
☒ Disaster risk reduction	☐ Ecosystems and biodiversity	☐ Gender	

Technical assistance requested (up to one page):

Founded on the problem statement, past/on-going efforts and technology barriers, please describe the requested technical assistance. The technical assistance should clearly contribute to mitigation or adaptation to climate change as described in the problem statement and contribute to overcome the specific technology barriers.

Within a clearly defined scope, the description of technical assistance should be structured into the following:

- Overall objective
- Anticipated groups of activities to be performed by the technical assistance
- Anticipated products to be delivered by the technical assistance.

Please note that the CTCN facilitates technical assistance and is not a project financing mechanism.

The details of the requested CTCN technical assistance are outlined below.

Overall objective: *Strengthening the water resources management capacity of the Cuu Long River Basin Committee with special focus on building the tehcnical capacity to forecast, manage and respond to saline intrusion in the Viet Nam Mekong Delta.*

The proposed project will contribute to the implementation of the National Strategy on Climate Change Adaptation and will address the increasing hazards of saline water intrusion. This includes providing technical solutions to:

1) ***Develop an information systerm including: database, software (for PC), applications (for mobile devices) or similar infrastructure to exchange information and near-real time data on salinity intrusion****. Software and mobile applications will be divided into 2 types depending on the user needs, e.g. designed to:*
   (i) Provide and share salinity monitoring data on the database
   (ii) Display maps and salinity data for end user.
2) ***Forecast near real-time salinity intrusion*** *in the VMD.*
3) ***Develop a set of tools to generate high-resolution map of saline intrusion progress in the VMD from near real-time monitoring data****. The tools and maps will be used for presenting the salinity intrusion progress in near real-time on the PC software, Web and Mobile applications to inform relevant stakeholders and decision-makers, so that they are able to take timely action to respond to hazards.*

The expected ***outputs to be delivered by the technical assistance*** *are summarized below:.*

- *The database of salinity data of the VMD, to be managed by the Cuu Long RBC.*
- *The integrated sharing mechanism for salinity monitoring data, including: PC's software, mobile device applications, maps of salinity intrusion.*
- *A report on Establishment of a mechanism for sharing near-real time salinity monitoring data in the VMD and related technical reports;*
- *User's Manual of software, applications and tools;*
- *Training materials*
- *Sustainability report.*

It is expected that as a result of the technical assistance, the RBO and relvant insitutions will be able to effectively share data on salinity intrusion and to better incoproate the salinity data in decisions relating to climate change preparedness and hazard early warning.

Expected timeframe:

Please indicate the expected duration period for the requested technical assistance. Please note CTCN technical assistance is limited to a maximum duration of 12 months.

The project implementation period is 12 months

Anticipated gender and other co-benefits from the technical assistance:

Please describe the activities with gender linkages as well as the anticipated gender and other co-benefits (e.g. biodiversity, economic, social, cultural, etc.) that are likely to be generated as a result of the technical assistance.

According to the General Statistics Office, rate of the female labor participation in the Mekong Delta is 66.1%, mainly in the fields of agricultural production and seafood processing, and the average working hours is 39.1 hours/week. Thereby, it is evident that women play a very important role in agricultural economic development in the Mekong Delta, and stand at the front line of the climate vulnerabilities threatening agricultural productivity – including saline intrusion.

However, the percentage of female workers who have received training is the lowest in the country at only 11.9%. The rate of women working at home without paying is quite high at 19.4%. It can be seen that in relation to gender equality in the Mekong Delta, there are significant issues to address.

Viet Nam has exceeded the Millennium Development Goals for WASH with 82% and 68% of the population having access to safe water and improved sanitation. Currently, 98% of the total population (about 97 million people) have access to hygienic drinking water and 78% of the population uses latrines of international standards. Even so, it should be noted that only about 10% of the rural population and 61% of the urban population have access to tap water. This rate is significantly lower in the Mekong Delta.

In the Viet Nam Mekong Delta, the quantity and quality of drinking water is influenced by the flow of the Mekong River and the degree of seawater intrusion. During the dry season, due to the impact of saline intrusion in the Mekong Delta, the amount of domestic water is lacking, women have to travel long distances to get water and may have to increase spending to acquire clean water. Lack of clean water due to salinity intrusion leads to unsanitary water use which has caused diseases related to women and girls. By addressing the salinity intrusion issues, a positive impact is also expected on freshwater availability and by extension the reduction in time that women may have to spend on retrieving water, as well as on reducing the salinity threats to their livelihoods, particularly within agricultural practices.

The project of sharing information on saltwater intrusion will not only help the operation of saltwater prevention works effectively, but also warn people to be proactive in collecting water for irrigation and storing water for domestic use helping to reduce the damage to the agricultural industry and also assisting women in the Mekong Delta increase their income and have better access to hygienic water. Through this, the resilience to changing climate and salinity hazards will be increased, assisted through better information and timely response to salinity intrusion.

An analysis and assessment of gender sensitization of activities and outputs will be carried out when implementing the project to propose activities to support gender equality. Potential actions to increase gender mainstreaming include focus on salinity information dissemination in ways that are gender-sensitive, focus on training women staff on the technical system capacities, engaging with gender experts/organizations in relation to salinity data dissemination and communication.

For more information you can find guidelines on the CTCN's website here:
https://www.ctc-n.org/technologies/ctcn-gender-mainstreaming-tool-response-plan-development

Further reading on gender can be found on the CTCN website here:
https://www.ctc-n.org/technology-sectors/gender

Key stakeholders:

Please list the stakeholders who will be involved in the implementation of the requested CTCN technical assistance and describe their role during the implementation (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.).

Stakeholders	Role to support the implementation of the technical assistance
National Designated Entity: Ministry of Natural Resources and Environment	*MONRE is the project's governing body, responsible for appointing a national focal point to monitor the project*
Request Applicant: Viet Nam National Mekong Committee	*VNMC is the project management agency, responsible for receiving and allocating funds, establishing the PMU to implement the project. General coordination of project activities at VMD.*
Provincial People's Committees in the VMD	*The provinces are responsible for appointing the focal points of the Department of Agriculture and Rural Development and Department of Natural Resource and Environment to participate in the project, supporting for the project implementation in the province, Receiving project results.*
Departments of Natural Resources and Environment in the VMD	*Provide the focal point to the project, provide data and information relating to the salinity monitoring in the province.*
Departments of Agriculture and Rural Development in the VMD Provinces.	*Provide the focal point to the project, provide data and information relating to the salinity monitoring in the province.*
Irrigation management companies	*Provide the focal point to the project, provide data and information relating to the salinity monitoring in the province.*
Southern Regional Hydrometeorological Center	*Provide the focal point and technician experts to the project, provide data and information relating to the salinity monitoring in the VMD.*
Southern Institute of Water Resource Planning	*Provide the focal point and technician experts to the project, provide data and information relating to the salinity monitoring in the VMD*
Southern Science Institute of Water Resource	*Provide the focal point and technician experts to the project, provide data and information relating to the salinity monitoring in the VMD*

Alignment with national priorities (up to 2000 characters including spaces):

Please describe how the technical assistance is consistent with national climate priorities such as: Nationally Determined Contribution, national development plans, poverty reduction plans, technology needs assessments, Low Emission Development Strategies, Nationally Appropriate Mitigation Actions, Technology Action Plans, National Adaptation Plans, sectorial strategies and plans, etc.

Alignment with National Strategy on Climate Change Adaptation Period to Year 2050

On 26 July 2022, the Viet Nam Prime Minister approved National Strategy on Climate Change Adaptation Period to Year 2050 by the decision No 896/QĐ-TTg, in that:

The objectives related to salinity intrusion management are:

- To control the degradation of water and land resources, to ensure adequate balance of water sources for daily life, industry, services and important economic sectors.

*- Important infrastructure works to adapt to climate change are completed with safety standards before natural disasters, especially works for natural disaster prevention, flood prevention, **saline intrusion**, water storage works. sweet for daily life and production, to prevent flooding in big cities.*

- The scientific and technological level of hydro-meteorological forecasting and early warning of natural disasters is on par with developed countries in Asia; climate change monitoring capacity, disaster risk management is on par with leading countries in the region; meet the requirements of providing basic climate services.

The activities to adapt the objectives are:
- Formulate and implement national water resources planning and river basins; identify areas that need strict protection, strictly manage groundwater extraction activities; prevent and combat degradation, depletion and pollution of water sources; improve and restore degraded, depleted and polluted water sources, strengthen solutions to manage, exploit, and use economically and efficiently water sources, focusing on areas at risk of drought, water shortage and drought. water, being ***adversely affected by saline intrusion****.*
- Completing key infrastructure works to respond to climate change, especially works for natural disaster prevention, flood prevention and ***salinity intrusion****.*
- Upgrading and modernizing technology for monitoring, analysing, forecasting, warning weather and natural disasters; application of advanced and modern forecasting technologies.
- Strengthening capacity to prevent flash floods, landslides, storm prevention, prevention of major floods and extreme floods; prevent and control the harmful effects of drought, high tide and saline intrusion.
- Exploit the advantages of digital technology, improve the quality of communication on the mass media in order to provide complete, accurate and timely information on climate forecasts. hydrology, forecasting and warning of natural disasters for government agencies at all levels, organizations and households.
- Effectively apply technologies of cloud computing, big data, Internet of things, artificial intelligence, blockchain... in building and implementing solutions to respond to climate change; in forecasting and forecasting the impacts of climate change on natural and social systems in order to contribute to transforming challenges into development opportunities and to support ministries, sectors, localities, organizations and individuals. improve capacity to respond to climate change.

In other words, the national priorities related to saline intrusion management are:
1. Building construction systems to prevent salinity;
2. Construction of a salinity monitoring system;
3. Forecasting salinity intrusion with modern technology gives highly reliable results;
4. Building a system to share information and data, serving people and businesses.

The above national priorities are entirely consistent with the objectives of this project proposal, which are:
1. To establish an integrated salinity intrusion data sharing system for enabling inclusion of salinity data in the climate change impact management in the Mekong Delta of Viet Nam;
2. To strengthen the institutional capacity for salinity data utilization and salinity management in the Mekong Delta of Viet Nam.

Reference document (please include date of document)	**Extract** (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC), updated in 2020	The proposed TA directly addresses the issues outlined in the NDC of Viet Nam (including priority gaps). See details in NDC, chapters 3.1.4, 3.1.5, 3.3.3 and 3.4.
The National Climate Change Strategy (NCCS), 2011	The National Climate Change Strategy (NCCS) is the main national-level document that supports the development and the implementation of all major climate change-related initiatives in the country. There are 10 task groups for Strategy Implementation. *Task group number 3 in 10 task groups is "Actively responding to sea level rise that are appropriate for vulnerable areas"*
Technology Needs Assessment, 2012	Sea-level rise and saltwater intrusion listed as one of the key cross-sectoral impacts of climate change.

The third national communication of Vietnam to the UNFCCC, 2019	Identifies salinity intrusion as one of the key issues affecting both water resources but also agriculture and aquaculture activities.
Decision No. 819/QD-BNN-KHCN of MARD approving the Action Plan on response to climate change in agriculture and rural development in 2016-2020, vision to 2050	Item II. Objectives: (3) Actively respond to, prevent and control natural disasters, manage flood and salinity intrusion, strengthen river and sea dykes, and ensure the safety of reservoirs, civil works, and technical infrastructure to meet prevention and control requirements. avoiding and mitigating natural disasters in agriculture and rural development in the context of climate change in the period 2016 - 2020 and vision to 2050.
Mekong River Commission Basin Development Strategy 2021-2030 and MRC Strategic Plan	TA contributes to achievement of the strategic priority no. 4, on Climate change, and particularly on upgrading data and information management systems as being essential to the effective use of the data collected under Outputs 4.1.1 and 4.1.5.
Master plan for Mekong Delta in 2021-2030	The Mekong Delta Master plan for 2021 – 2030 specifically identifies salinity intrusion ads the strategic priority no. 2.
The National Climate Change Strategy Period to 2050 (NCCS), 2022	Objectives of the Strategy related to the Salinity intrusion on Item. III: Objective, page 3 and 4. Activities of the Strategy related to the Salinity intrusion on Item IV. Activities and Solution, page 5, 7, 8, 9 and 15.

Development of the request (up to 2000 characters including spaces):

Please describe 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.

From March to June 2022, the VNMC organized field trips to the Mekong Delta provinces. In the meetings with the Departments of Natural Resources and Environment, Department of Agriculture and Rural Development, VNMC realized that the demand for fresh water in the VMD is increasing day by day and the situation of saline intrusion in coastal provinces is still very complicated. In the dry season, the water demands for daily life and agricultural and fishery production are very high, but the flows from upstream is low. By the time, the tide level is high, leading to saline intrusion deep into the land. To control salinity, a series of saline prevention systems have been built in the Mekong Delta including sluices to prevent salinity, dikes and canal dredging to store fresh water.

To learn about the monitoring and forecasting of saline intrusion, VNMC also worked with: Hydrometeorological Station of the Southern region, Southern Institute of Irrigation Science Research, Southern Institute of Irrigation Planning, some units operate salt-prevention works. Through the meetings, it was found that salinity measurement in the Mekong Delta is being overlapped by different sectors. MONRE has monitoring stations on the mainstream, which can only assess saline intrusion in general. The Ministry of Agriculture and Rural Development is the Ministry of Agriculture and Rural Development, which is in charge of the management of the system of saltwater prevention works, so measurements are made at the construction sites. The measurement data are not shared, measured by different methods and devices, leading to inaccurate results and insufficient data for effective response.

After the mission, it was found that the construction of an integrated system of salinity monitoring data is very urgent for the Mekong Delta, in line with the functions and mandates of the VNMC as an inter-

sectoral coordination agency and in line with the National Climate Change Adaptation Strategy, the VNMC has consulted with the Department of Climate Change of MONRE, Departments of Natural Resources and Environment in the provinces of Ben Tre, Soc Trang, Tra Vinh, Bac Lieu, Can Tho, Vinh Long and Hau Giang, experts from DHI (Danish Hydraulics Institute) to prepare this Project Proposal (This Request Submission Form).
During the Draft of the Proposal was developed, VNMC received comments on the proposal from the following agencies:
- Southern Institute of Irrigation Science: Comments on technical solutions
- Hydrometeorological station in the southern region: comments on the saline monitoring network, technical solutions
- Department of Climate Change, Ministry of Natural Resources and Environment: comments on the national priority strategy;

Background documents and other information relevant for the request:

- Please list all relevant documents that will help the CTCN analyse the context of the request and national priorities. Please note that all documents listed/provided should be mentioned in this request in the relevant section(s), and that their linkages with the request should be clearly indicated. For each document, please provide web-links (if available) or attach to the submission form. Please add any other relevant information as required.
- Please indicate if this request has been developed with the support of the CTCN Request Incubator.

Relevant links:

- https://www.vd-office.org/en/master-plan-for-mekong-delta-in-2021-2030-announced/
- https://unfccc.int/documents/192805
- https://unfccc.int/NDCREG
- https://www.adaptation-undp.org/sites/default/files/resources/vietnam_poster.pdf
- https://www.mrcmekong.org/assets/Publications/BDS-2021-2030-and-MRC-SP-2021-2025.pdf
- http://dcc.gov.vn/kien-thuc/1057/SUMMARY-REPORT-ASSESSING-THE-IMPLEMENTATION-OF-THE-NATIONAL-STRATEGY-AND-ACTION-PLAN-ON-CLIMATE-CHANGE,-PROPOSING-MEASURESTO-ACCELERATE-THE-IMPLEMENTATION-OF-THE-STRATEGY-FOR-PERIOD-2021-%E2%80%93-2030.html
- http://dcc.gov.vn/van-ban-phap-luat/1084/Ve-viec-Phe-duyet-Chien-luoc-quoc-gia-ve-bien-doi-khi-hau-giai-doan-den-nam-2050.html

OPTIONAL: Linkages to Green Climate Fund Readiness and Preparatory Support

The CTCN is collaborating with the GCF in order to facilitate access to environmentally sound technologies that address climate change and its effects, including through the provision of readiness and preparatory support delivered directly to countries through their GCF NDA. These actions are in line with the guidance of the GCF Board (Decision B.14/02) and the UNFCCC, particularly paragraphs 4 and 7 of 14/CP.22 that addresses Linkages between the Technology and the Financial Mechanisms[7].

The CTCN is therefore implementing some of its technical assistance using GCF readiness funds accessed via the country's NDA. Any application for GCF support, including the amount of support provided, is subject to the terms and conditions of the GCF and should be developed in conjunction with the NDA.

[7] Please see:
https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf

Please indicate whether this request has been identified as preliminarily eligible by the NDA to be considered for readiness support from the GCF.

☐ Initial engagement: The GCF NDA of the requesting country has been engaged in the design of this request and the NDA will be involved in the further process leading to an official agreement for accessing GCF readiness support.

☐ Advanced engagement (preferred): The GCF NDA of the requesting country has been directly involved in the design of this request and is a co-signer of this request, the signature indicating provisional agreement to use readiness national funds to support the implementation of the technical assistance.

NDA name:

Date:

Signature:

Monitoring and impact of the assistance:

By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures.
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:

Signature:

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

The CTCN is available to answer all questions and provide guidance on the application process.