

From TA Ideas to Scalable Climate Technology Pipelines in Asia

2026 Joint Programme: Asia NDE Forum, Capacity Building, NDE-
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Global TA Topics

Priority topics across regions

Across regions, CTCN TA demand is shifting toward integrated systems, implementation readiness, and scale-up pathways.

Water–Energy–Food Nexus

Climate-resilient agriculture, water security, food systems

Feasibility studies, pilots, decision-support tools, business models, investment concepts

Buildings & Infrastructure

Multi-hazard platforms, urban/coastal resilience, green buildings

Risk maps, platform specifications, planning tools, local capacity building

Energy Systems

Renewable integration, green hydrogen, SF₆ reduction, energy efficiency

Roadmaps, grid/policy studies, technology assessments, implementation frameworks

Business & Industry

Circular economy, MSME finance, industrial decarbonization

Sector roadmaps, finance taxonomies, market assessments, scale-up concepts

Sustainable Mobility

E-mobility policy, charging infrastructure, transport planning

Policy frameworks, tariff/regulatory analysis, deployment planning

Key takeaway: stronger TA concepts explain not only the technology, but also the system change and next implementation step

Global lessons for stronger TA concepts

The strongest TA requests are clear, nationally owned, and designed around how the outputs will be used after completion.

- 1 National ownership** NDE, project proponent, line ministry, local users, and potential donors/investors are identified early.
- 2 Specific technology need** The request defines the technology, system or decision-making gap.
- 3 Implementation-oriented outputs** TA outputs lead to a roadmap, feasibility study, pilot design or investment concept.
- 4 Scale-up logic** The concept explains possible GCF, GEF, MDB, bilateral, private-sector or national financing routes.
- 5 Post-TA use** There is clarity on who will use the outputs and what decision they will support.

What this means for Asia TA requests

For Asia, the priority is not only to generate more TA requests, but to strengthen the quality, ownership and scale-up readiness of each request.

Move from...

A broad climate problem

A standalone study

Late engagement with finance actors

Unclear post-TA ownership

One-off technical support



Move toward...

A specific technology or system gap

An output that supports implementation

Early coordination with potential donors/investors

A defined user of TA outputs and next decision

A pathway to pilot, investment or scale-up

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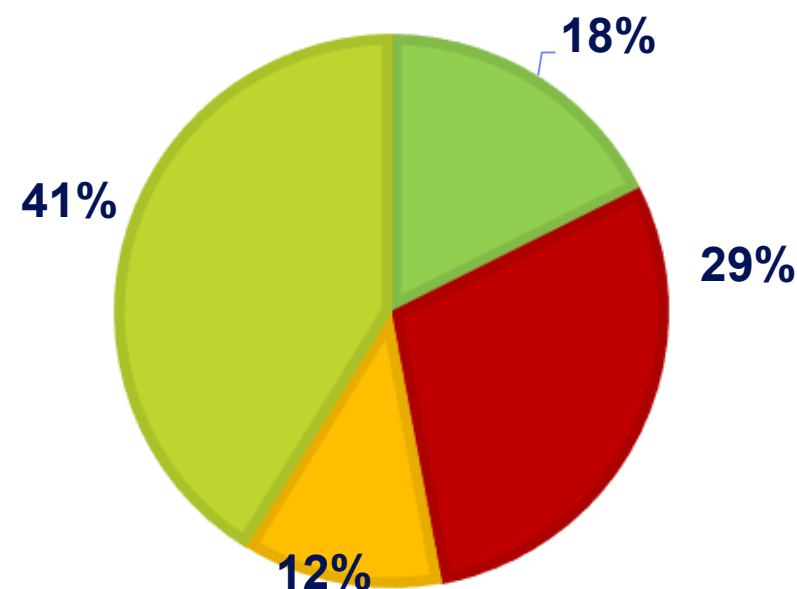
Asia TA Portfolio

- 7 TA **ideas** under development
- 4 Technical assistances in the **design** stage
- 3 Technical assistances under **bidding**
- 6 Technical assistances under **implementation**
- 4 Technical assistances **completed**

17 TAs

SYSTEM TRANSFORMATION

- Energy Systems (3)
- WEF nexus (5)
- Business&Industry (2)



Asia TA Portfolio 2025-2026

Country	Idea.	Des.	Bid.	Imp.	Com.
Bangladesh	1			1	
Cambodia		1	1	1	
Indonesia	1				
Kazakhstan	1				
Kyrgyzstan			1		
Laos		1			
Malaysia					1
Maldives				1	
Mongolia				1	
Nepal			1		1
Philippines	1				
Tajikistan	1	1			
Thailand					1

Country	Idea.	Des.	Bid.	Imp.	Com.
Timor-Leste					1
Uzbekistan				1	
Vietnam	1	1		1	
Multi-country	1				

7 TA ideas in the pipeline
17 TAs at different stages
16 countries supported in 2025/26

	Completed
1	Thailand: Feasibility and Viability Study of Using Blockchain Technology for a Real-time Climate Risk Insurance System in Thailand's Agricultural Sector
2	Malaysia: Development of a Multi-Hazard Platform for forecasting local level climate extremes and physical hazards for Iskandar Malaysia
3	Nepal: Customized weather and climate information system for climate-resilient agriculture in Nepal
4	Timor-Leste: Formulating a National Electricity Grid Code and Development of a Net Metering Policy in Timor-Leste

Thailand: Feasibility and Viability Study of Using Blockchain Technology for a Real-time Climate Risk Insurance System in Thailand's Agricultural Sector

Project status: Completed

Implementation period: 2023-2025

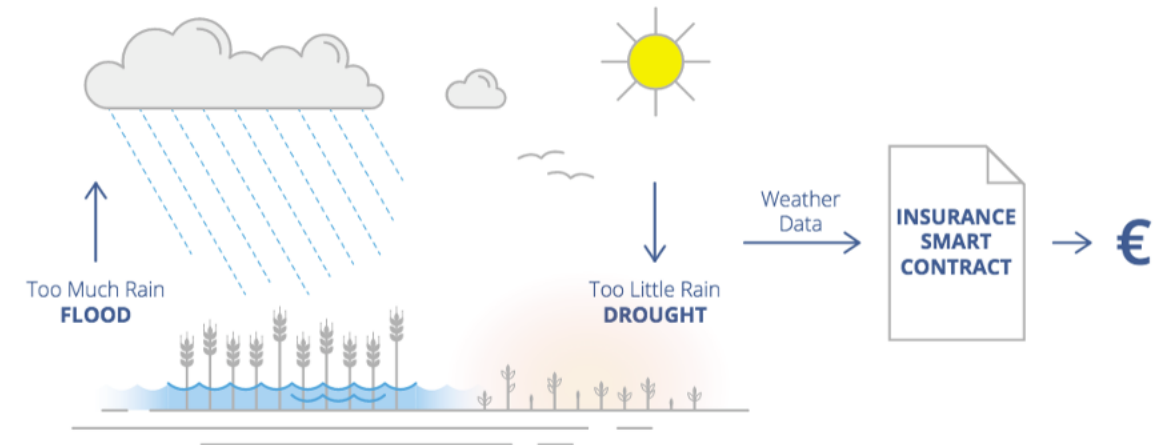
NDE & Project proponent: The Office of National Higher Education Science Research and Innovation Policy Council (NXPO)

Implementing partner: Blockchain Climate Policy Studies Limited (BCI)

Main objective: To evaluate the technical and economic feasibility and viability of using blockchain technology for a real-time parametric crop insurance system for farmers in Thailand

Background:

- The World Bank's report on Thailand reveals climate change impacts on agriculture, threatening rice yields and farmers' livelihoods.
- Crop insurance exists, but lacks adequate climate index coverage. Parametric insurance offers fixed payments tied to weather events, and blockchain technology could streamline claims and enhance fairness in premiums.



Thailand: Feasibility and Viability Study of Using Blockchain Technology for a Real-time Climate Risk Insurance System in Thailand's Agricultural Sector

Key outputs:

- Transparency on the feasibility and viability of using blockchain technology for a real-time parametric insurance system
- Clarity on the roadmap for implementation of a proof-of-concept of a blockchain-enabled real-time parametric insurance system
- Enhanced access of farmers to transparent and efficient parametric insurance if the blockchain-enabled system will be implemented
- Enhanced institutional capacities of key stakeholders (including NXPO, Bank for Agriculture and Agricultural Cooperatives (BAAC), Ministry of Agriculture, etc.) on the relevance of blockchain technology for parametric insurance and agriculture at large, and related considerations for technology implementation.



Malaysia: Development of a Multi-Hazard Platform for forecasting local level climate extremes and physical hazards for Iskandar

Implementation period: 2023-2025

Project status: Completed

NDE: Dr. Sugumari Shanmugam, Under Secretary, Climate Change Division, Ministry of Environment and Water

Project proponent: Ms. Kamisah Mohd Ghazali, Senior Vice President, Iskandar Regional Development Authority (IRDA)

Implementing partner: Stichting Deltares

Main objective: To develop a prototype Multi-Hazard Platform (MHP) for Iskandar Malaysia that integrates local climate extremes and coastal hazard risks, strengthens forecasting capacity, and supports evidence-based decision-making for disaster resilience

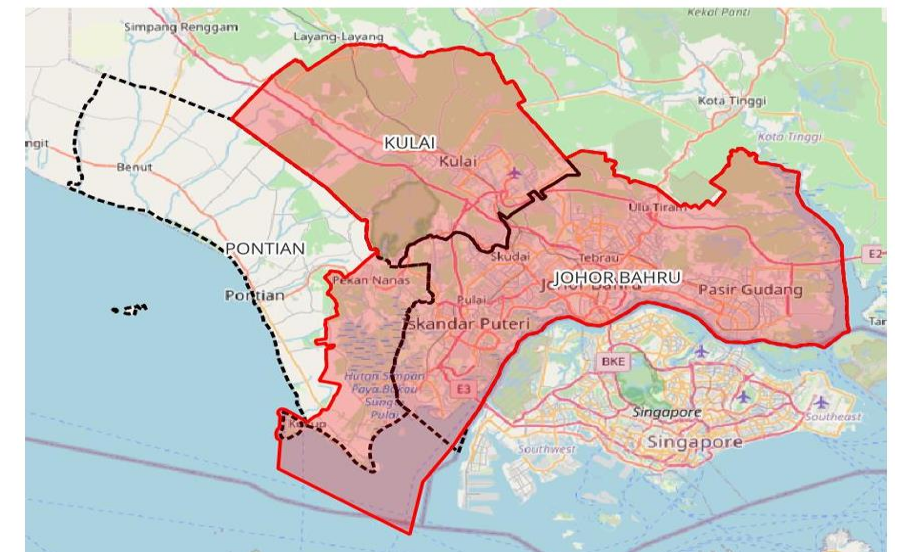


Figure 2-1 Study area indicated by the red area.

Malaysia: Development of a Multi-Hazard Platform for forecasting local level climate extremes and physical hazards for Iskandar

Key outputs:

- Technical specifications for integrating local climate and hazard data into the MHP.
- Probabilistic hazard maps and localized hazard forecasts (floods, storm surges, coastal erosion, sea-level rise).
- Prototype MHP and decision support tool with user manual.
- Assessment of financing needs for a fully operational system (including climate finance options such as GCF).
- Capacity building and training for local authorities and communities, with a gender-sensitive approach.
- Early action protocols and communication materials for disaster preparedness.



Figure 4-2 Group picture after the morning session of the 11 March workshop.

Post-project impact:



Inclusive Resilience:
Empowering women and vulnerable groups through capacity building and early warning systems.

Shared Learnings:
Replicable tools and insights for other Southeast Asian coastal cities.

	Under implementation
1	Cambodia: Development of National Green Hydrogen Roadmap for Accelerating Carbon Neutrality
2	Mongolia: Reducing smallholder vegetable farmers' vulnerability to climate change impacts including water scarcity in Mongolia through EbA and digitalized risk mitigation insurance solutions
3	Uzbekistan: Pre-feasibility study for groundwater desalination and resource recovery in Uzbekistan
4	Bangladesh: Feasibility research of Solar Electric-Based Cold Warehouse equipped with Low-temperature Latent Heat Material for Fruit Storage in Bangladesh Climate Conditions
5	Vietnam: Strengthening salinity intrusion data sharing and forecasting for adaptation to climate change impacts in the Mekong Delta of Viet Nam
6	Maldives: Feasibility study on green hydrogen potential in Maldives and development of a national roadmap for sustainable energy transition

Mongolia: Reducing smallholder vegetable farmers' vulnerability to climate change impacts including water scarcity in Mongolia through EbA and digitalized risk mitigation insurance solutions

Project status: Implementation

NDE: Climate Change Research and Cooperation Center (CCRCC)

Project proponent: Climate Change and Policy Planning Department, Government of Mongolia (Ministry of Environment and Tourism; and Ministry of Food, Agriculture and Light Industry)

Main objective: The main objective of this technical assistance is to support vegetable smallholder farmers in two provinces in Mongolia to adapt to climate change by providing a bankable proof of technology concept for solar-powered irrigation and agroforestry as an ecosystem-based approach for better water resource management. To support this solution, a digital-based crop insurance product will be developed for smallholders to fill the current gap for damage protection and financial instruments for investment risk mitigation.

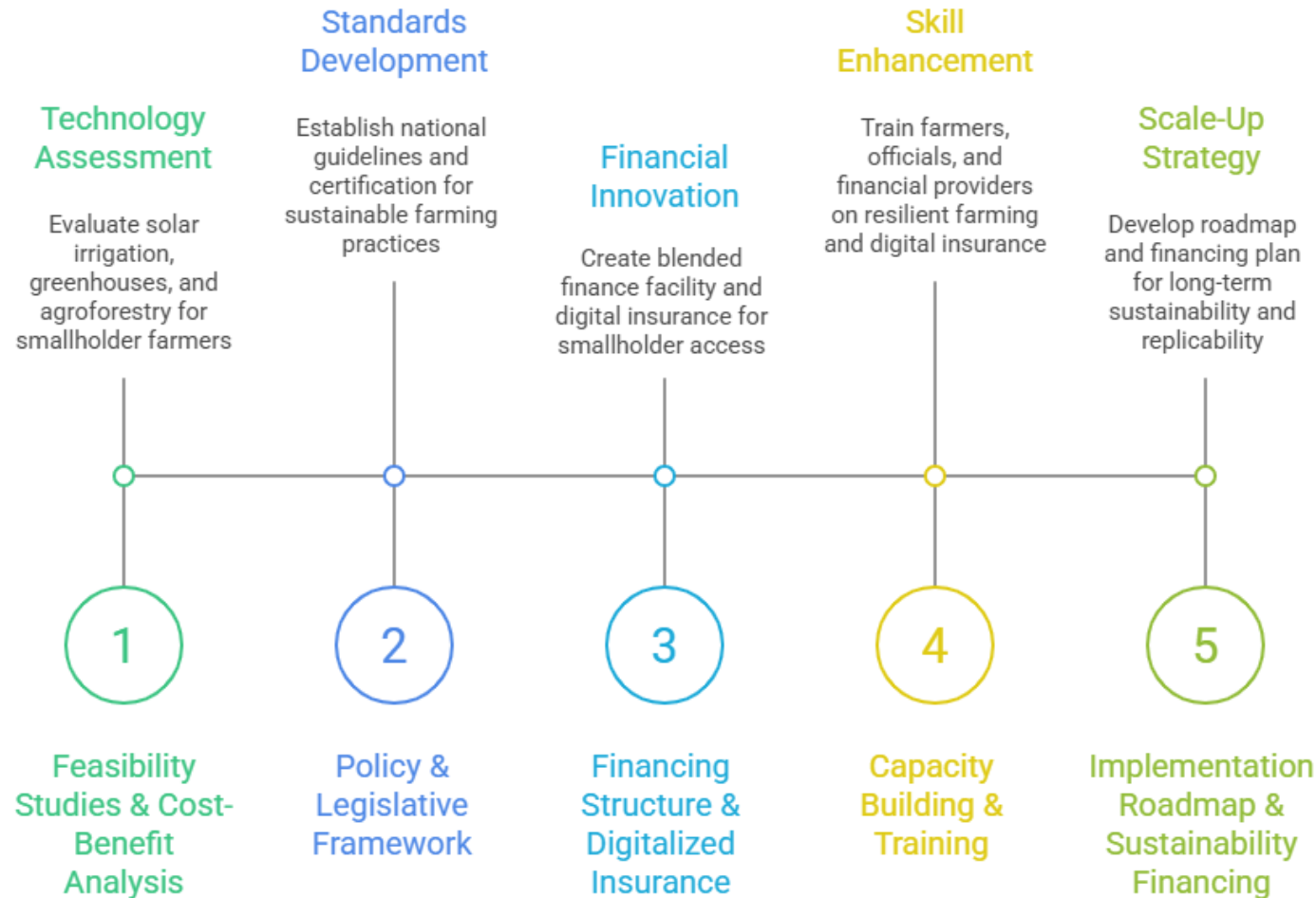
Background:

- Mongolia faces climate change, with temperatures up 2.2°C since 1940, affecting agriculture and food security.
- Provinces like Dundgobi and Uvurkhangai struggle with extreme weather, reducing yields.
- Smallholder farmers lack necessary resources, and despite government efforts, challenges remain.



Mongolia: Reducing smallholder vegetable farmers' vulnerability to climate change impacts including water scarcity in Mongolia through EbA and digitalized risk mitigation insurance solutions

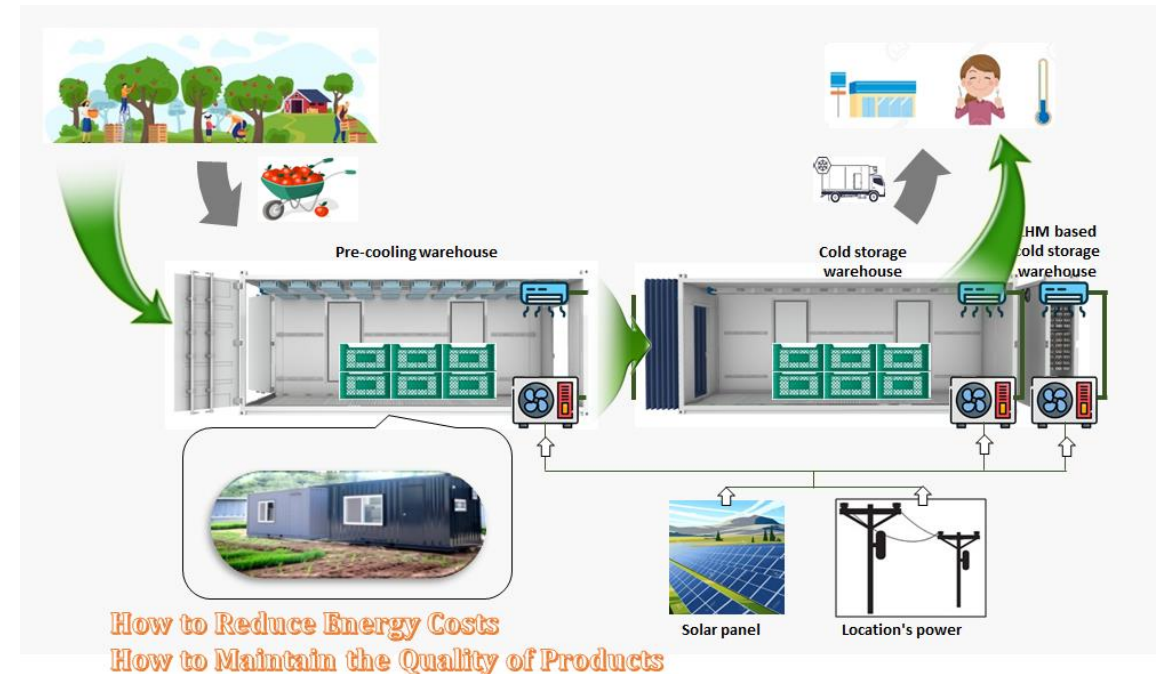
Key outputs



Bangladesh

Feasibility Research of Solar Electric-Based Cold Warehouse equipped with Low-temperature Latent Heat Material for Fruit Storage in Bangladesh Climate Conditions

- Bangladesh's agricultural sector suffers 40% post-harvest losses of perishable goods due to inadequate cold storage.
- CTCN TA aims to develop portable solar-powered cold storage units for rural areas, reducing losses, improving food security, and enhancing climate resilience.
- Key activities include designing the storage model, piloting units, and creating a sustainable business model.



	Under bidding
1	Cambodia: Strengthening Climate-Resilient Water Storage Systems for Agriculture in Cambodia through Feasibility Assessment and Investment Readiness of Improved Rainwater Harvesting Solutions
2	Nepal: Comprehensive Feasibility Study for Nepal's Integrated Cement, Green Hydrogen, and Urea Production Plant Project
3	Kyrgyzstan: Development of an Integrated Waste Management and Circular Economy Roadmap for the Kyrgyz Republic (2025–2030), including the Conceptual Design of a Pilot Deposit-Return System
1	Response Plan Development
1	Cambodia: Strengthening Climate-Resilient Water–Energy–Food Nexus Decision-Making in Cambodia through an Integrated Decision Support System, starting with the transboundary Se San River Basin
2	Laos: Implementing Lao PDR's Early Warning for All (EW4All) Roadmap 2024-2027
3	Tajikistan: Enhancing weather and climate data management Innovation in Tajikistan through an AI- and Observation-Based High-Resolution Data Management Platform
4	Vietnam: Strengthening Hai Phong City's climate adaptation and disaster prevention: a pilot for localized early warning system



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Priority TA Topics for 2026 and beyond

New requests point to a shift from standalone studies toward integrated systems, finance-ready outputs and implementation-oriented TA design.

AI, data and early warning

Potential TA focus:

- AI- and observation-based climate data management platforms
- Localized early warning and disaster prevention systems
- Multi-hazard risk platforms and decision-support tools
- Data-sharing protocols between agencies
- Early action communication and user training

Integrated energy and industrial decarbonization

Potential TA focus:

- Green hydrogen roadmaps and feasibility studies
- Industrial decarbonization pathways, including cement
- SF₆ reduction and power-sector mitigation
- Renewable energy integration and grid-readiness studies
- Energy efficiency policy and implementation frameworks

WEF nexus and agricultural resilience

Potential TA focus:

- Rainwater harvesting and climate-resilient water storage
- WEF nexus decision-support systems
- Solar-powered cold chain and post-harvest loss reduction
- Groundwater desalination and resource recovery
- Climate-smart agriculture and cooperative-based business models

Circular economy, finance and innovation systems

Potential TA focus:

- Circular economy roadmaps and pilot design
- Deposit-return systems and waste-sector business models
- Adaptation finance facilities for MSMEs
- Climate technology market assessments
- National innovation systems and technopreneurship pathways

Matching TA topics with the right output

The requested output should be linked to the next decision that national stakeholders need to make.

If the country needs...

Understand technology viability

Coordinate multiple institutions

Prepare for piloting

Attract finance

Support policy change

Scale a local model

TA output could be...

Feasibility study or technology assessment

Roadmap, governance framework, stakeholder coordination plan

Pilot design, technical specifications, implementation plan

Investment concept, scale-up concept note, financing strategy

Policy framework, regulatory analysis, standards/guidelines

Business model, replication plan, partner/investor mapping

Adaptation Fund Climate Innovation Accelerator (AFCIA)

Call for Proposals in Asia Pacific

- Providing technical assistance to **innovative adaptation solutions**
- Prioritizing **LDCs** and **SIDS**



7 July to 7 October
Application window

10
Number of Technical
Assistance available

USD 150,000
Technical Assistance budget
(max)

Piloting
Project type

ADAPTATION FUND

Climate 
Innovation
Accelerator

SMALL GRANTS. BIG IMPACT.

UN 
environment
programme

 **CTCN**
UN Climate Technology Centre & Network

Call for Proposals: Asia Pacific

Find out more here



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