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Developing Innovative Financial Instruments to Address Climate Risks for Agriculture and Natural Capital in Asia

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Asian Development Bank

ABBREVIATIONS

ACliFF	–	Asia-Pacific Climate Finance Fund
ADB	–	Asian Development Bank
DMC	–	developing member country
FRMP	–	financial risk management product
GLOF	–	glacial lake outburst flood
PRC	–	People's Republic of China
TA	–	technical assistance
WII	–	weather index insurance

NOTE

In this report, “\$” refers to United States dollars.

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CONTENTS

	Page
TECHNICAL ASSISTANCE AT A GLANCE	
I. INTRODUCTION	1
II. ISSUES	1
III. THE TECHNICAL ASSISTANCE	4
A. Impact and Outcome	4
B. Outputs, Methods, and Activities	4
C. Cost and Financing	7
D. Implementation Arrangements	7
IV. THE PRESIDENT'S DECISION	9
APPENDIX	
Design and Monitoring Framework	10
ANNEXES	
1. Cost Estimates and Financing Plan	
2. Terms of Reference for Consultants	

TECHNICAL ASSISTANCE AT A GLANCE

Project Data					
Project number	59199-001	Project name	Developing Innovative Financial Instruments to Address Climate Risks for Agriculture and Natural Capital in Asia.		
Nature of Activity	✓ Capacity Development Policy Advice Project Preparation Research and Development	Modality	Stand-alone		
Country	REG (CAM, NEP, PAK, SRI, VIE)	Executing or implementing agency	Asian Development Bank		
Department/Office	SD2/SD2-AFNR	Geographical location	Regional		
Sector(s)	✓ Agriculture, natural resources and rural development	Subsector(s)	Agricultural policy, institutional and capacity development Land-based natural resources management Water-based natural resources management		
Strategic Focus Area	✓ Climate action	Sustainable Development Goals	SDG 1.4, 1.5 SDG 2.4 SDG 13.1, 13.a SDG 15.1		
Financing					
ADB Financing		Amount (\$ million)			
None		0.00			
Cofinancing		Amount (\$ million)			
Asia Pacific Climate Finance Fund		3.00			
Counterpart		Amount (\$ million)			
None		0.00			
Total		3.00			
ADB Climate Financing					
ADB					
Adaptation		0.00			
Mitigation		0.00			
Cofinancing (ADB-administered)					
Adaptation		2.50			
Mitigation		0.50			
Total		3.00			
Currency of ADB Financing: US Dollar					
Climate Action					
Disaster Risk Management, Environment and Nature		Disaster risk reduction (DRR), Environment Finance/Governance, Nature-based Solutions (including green infrastructure), Ocean and Coastal Management, Terrestrial Ecosystems			
Safeguards					
Category	Environment: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input checked="" type="checkbox"/> Not Applicable				
	Involuntary resettlement: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input checked="" type="checkbox"/> Not Applicable				
	Indigenous peoples: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input checked="" type="checkbox"/> Not Applicable				
Gender Equality					
Category	<input type="checkbox"/> Gender equality objective (GEN) <input checked="" type="checkbox"/> Some gender elements (SGE)	<input type="checkbox"/> Effective gender mainstreaming (EGM) <input type="checkbox"/> Indirect gender benefits (IGB)			
Poverty Reduction and Inclusion					

Category	<input type="checkbox"/> Poverty reduction and inclusion focus (PIF) <input checked="" type="checkbox"/> Poverty reduction and inclusion elements (PIE) <input type="checkbox"/> Indirect poverty reduction and inclusion (IPI)
Regional Cooperation and Public Goods	
Category	<input type="checkbox"/> Pillar 1 <input type="checkbox"/> Pillar 2 <input type="checkbox"/> Pillar 3 <input checked="" type="checkbox"/> Not applicable

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I. INTRODUCTION

1. The technical assistance (TA) will improve the adoption of innovative financial risk management products (FRMPs) to enhance climate resilience in agriculture and food systems, and natural capital. The TA will focus on Cambodia, Nepal, Pakistan, Sri Lanka, and Viet Nam. The TA will (i) conduct comprehensive assessments to understand root causes and constraints, and the strengths and weaknesses of FRMPs that have already been piloted; (ii) explore the feasibility of developing and deploying new FRMPs; (iii) develop solutions, including improved designs of the existing piloted products, their distribution channels, and financial sustainability options, to promote scalability and sustainability; and (iv) share knowledge and build capacity of stakeholders on FRMPs to support innovative climate finance solutions. Among FRMPs, the TA will prioritize in-depth work on weather index insurance (WII) that has been piloted in three countries (Cambodia, Pakistan and Viet Nam) while support for other FRMPs will be limited to preliminary feasibility assessments across all five countries.
2. The TA is aligned with key national strategies and plans in the five selected countries. For Cambodia, the TA is in line with the Pentagonal Strategy Phase I and the Master Plan for Agriculture Sector Development towards 2030, which emphasize the importance of developing agricultural insurance services and other financial products to bolster agricultural production. For Pakistan, the TA is aligned with the National Adaptation Plan 2023, in which developing and implementing climate and disaster risk finance and insurance products has been highlighted. For Viet Nam, it is aligned with (i) the National Adaptation Plan, 2021–2030 and Vision 2050, which focuses on reducing climate change impacts by promoting and diversifying insurance products in high-risk sectors, such as crop production, aquaculture, and seafood production; and (ii) the Sustainable Agriculture and Rural Development Strategies for the Period 2021–2030 with a Vision Toward 2050, which aims to broaden the use of agricultural insurance products to enhance resilience against natural disasters and epidemics for both individuals and enterprises. The TA also aligns with the National Adaptation Plan as well as the Agriculture Development Strategy, 2015–2035 of Nepal, and the National Climate Change Policy and National Adaptation Plan, 2016–2025 of Sri Lanka.¹
3. The TA is aligned with (i) the Strategy 2030 Midterm Review of the Asian Development Bank (ADB); (ii) the strategic focus area of ADB's Corporate Results Framework, 2025–2030 on climate action; and (iii) the Corporate Results Framework's development results indicator 7 (by increasing the number of people with strengthened climate and disaster resilience) and indicator 8 (by increasing the number of people with food and nutrition security).²

II. ISSUES

4. **Asia and the Pacific is highly vulnerable to climate change.** This vulnerability is because of its geographical diversity and extensive coastlines. Rising temperatures have led to more frequent heat waves, droughts, and floods, affecting Asia and the Pacific. These climate impacts have severe economic and social consequences, including events such as the devastating floods in Cambodia and Nepal in 2024, in Pakistan in 2025, and Typhoon Yagi in Viet

¹ Government of Nepal, Ministry of Forests and Environment. 2021. *National Adaptation Plan to Climate Change*.

² ADB. 2024. *Strategy 2030 Midterm Review: An Evolution Approach for the Asian Development Bank*; and ADB. 2024. *Steering ADB's Corporate Strategy to Success: Corporate Results Framework, 2025–2030*.

Nam in 2024. If left unaddressed such disasters could reduce the region's gross domestic product by 24% by 2100, threatening the livelihoods of 60% of the global population.³

5. The agriculture sector is particularly affected. Extreme weather reduces crop yields and escalates food prices. Droughts and floods have affected millions of hectares of cropland and caused significant economic losses. The total economic losses because of droughts and floods in Asia and the Pacific were estimated at \$49 billion during 2008–2018, which is equivalent to the combined gross domestic product of Cambodia, the Lao People's Democratic Republic, and Timor-Leste.⁴ Global food prices have fluctuated significantly because of governments' responses to shocks. Rising temperatures will exacerbate reductions in livestock and crop productivity both in terms of quality and quantity by further diminishing soil moisture, inducing water stress for agricultural production, affecting cropping patterns, and increasing incidence of pests and diseases. Rice production is projected to decrease in many countries, threatening food security in the region.⁵ Projected estimates indicate that a temperature increase of 1.5°C would lead to an annual loss of 13% in crop net revenue, while a 3°C rise would result in a more significant reduction, amounting to a 28% decrease in crop net revenue in Asia (footnote 4).

6. In 2023, women made up a significant portion of the agricultural workforce in Cambodia, Nepal, Pakistan, Sri Lanka, and Viet Nam. Agriculture remains a major source of employment for women in Cambodia (38.3%), Nepal (73.5% of all female employment), Pakistan (66.5%), and with significant shares also in Sri Lanka (26.2%), and Viet Nam (34.1%).⁶ Despite their critical role in food production and rural livelihoods, women continue to face persistent, gender-specific barriers in accessing finance and financial risk management tools that could enhance their resilience to climate-induced shocks. Women face common challenges, including low awareness of WII, limited opportunities to influence product design, low digital and financial literacy, and exclusion from conventional distribution channels. These challenges are further compounded by affordability issues, constrained access to credit, and weak integration of gender considerations in national insurance and climate risk financing policies.⁷ Climate risks tend to deepen existing inequalities by driving greater economic insecurity and reducing women's resilience to shocks. Climate risk financing instruments could reinforce rather than reduce such gender inequalities, if they are not designed to be inclusive of gender considerations.

7. Natural capital, including water, forests, soils, and biodiversity, is also vulnerable to climate variability. Changes in temperature, precipitation patterns, and extreme weather events disrupt ecosystems, deplete natural resources, and endanger species. Irregular monsoon patterns and long-term droughts have led to declining water in reservoirs, affecting irrigation and drinking water supplies, as well as causing damage to the dependent ecosystems. In Sri Lanka for instance, reduced flows from the upper watershed of the Mahaweli River during dry spells impose significant risks to agriculture, hydropower, water supply, and other water dependent commercial and industrial activities, as well as to biodiversity and ecosystem integrity. In the

³ ADB. 2023. [Asia in the Global Transition to Net Zero: Asian Development Outlook 2023 Thematic Report](#); and United Nations. 2015. [World Population Prospects: The 2015 Revision Volume II: Demographic Profiles](#). United Nations Department of Economic and Social Affairs. pp. 21–27.

⁴ Food and Agriculture Organization of the United Nations. 2021. [The Impact of Disasters and Crises on Agriculture and Food Security: 2021](#).

⁵ R. Shaw et al. 2022. [Asia](#). In H.-O. Pörtner et al., eds. Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. pp. 1457–1579.

⁶ World Bank Group. [DataBank](#) (accessed 15 August 2025).

⁷ S. Akter et al. 2016. [The Influence of Gender and Product Design on Farmers' Preferences for Weather-indexed Crop Insurance](#). *Global Environmental Change*. 38. pp. 217–229; and M. Aheeyar et al. 2019. [Unpacking Barriers to Socially Inclusive Weather Index Insurance: Towards a Framework for Inclusion](#). *Water*. 11 (11). p. 2235.

Himalayas, glacial melts threaten water availability across multiple rivers flowing into Nepal and Pakistan. For example, in Nepal about 80% of the annual rainfall occurs from June to September, and the rest of the water in the rivers in Nepal is dependent on glacial melt, making the river highly vulnerable to extreme weather events. In addition, glacial lake outburst floods (GLOFs) pose significant risks to these rivers, leading to sudden and destructive flooding such as the devastating floods at Birendra Lake in Gorkha in 2023, Thame GLOF in August 2024, and Rasuwa GLOF in 2025 in Nepal. Changing temperatures of glacial rivers also affect fish populations in the freshwater ecosystems, affecting livelihoods of fisherfolk. Marine biodiversity is also under threat because of rising sea temperatures and ocean acidification, which affect fish populations and the livelihoods of coastal communities. Droughts and unpredictable weather conditions make forests more prone to wildfires, biodiversity losses, and the spread of invasive species.

8. Innovative financial solutions to mitigate climate-induced risks are urgently needed. Climate insurance, especially index-based schemes like WII, is seen as one of the tools to mitigate the risks of climate variability. WII relies on predefined parameters of observable, exogenous events, like weather data, to trigger insurance payouts. This process skips the long phase of assessing an actual loss under indemnity-based insurance schemes. The results are reduced transaction costs, greater transparency, and faster processing times. Constructed based on the relationship between weather data and yield losses, index insurance can also help mitigate covariate risk, as it allows the insurer to predict losses and determine payments for a larger number of policyholders across a wider geographical zone. Despite these potential benefits, the actual uptake of WII has not met its potential in most developing member countries (DMCs). In Asia and the Pacific, the People's Republic of China (PRC) and India have achieved some scale in growing their WII programs, with about 160 million farmers in the PRC and 33 million in India participating in such programs.⁸ Many other countries, including Cambodia, Pakistan, and Viet Nam, are still at the pilot phase of WII schemes. These pilots have yielded several useful lessons. A study conducted on WII for coffee farmers in Viet Nam, for instance, reveals that although farmers expressed positive willingness to pay for WII, the design of the pilot WII does not match with the preferences of many farmers at the project site, particularly regarding the types of weather risks covered and the duration of risk coverage.⁹ In Cambodia, an ADB WII pilot has shown that the mismatched design of premium costs and payout of the pilot could be one of the barriers of adoption. The design of WII products and the financial mechanism to support premium costs are crucially important elements in scaling up adoption of such schemes. Extensive literature has highlighted six common key challenges to scaling up adoption of WII across countries: (i) poor design of basis risk, (ii) high premium cost, (iii) inappropriate contract designs, (iv) insufficient interest from suppliers and lack of clarity about clients' expectation from WII, (v) lack of awareness and knowledge about WII, and (vi) lack of enabling environment such as policy frameworks and market infrastructure.¹⁰ Religious belief is also one of the factors constraining its adoption, particularly in Pakistan. The project will investigate these challenges in the context of Cambodia, Viet Nam, and Pakistan, and will seek to develop solutions to address these challenges in all the countries included under the TA.

9. While the main focus of the TA is on WII, it will also explore other FRMPs that could potentially support scaling up investment for climate-sensitive sectors such as agriculture, forestry,

⁸ U. Hess and P. Hazell. 2016. *Innovations and Emerging Trends in Agricultural Insurance. How Can We Transfer Natural Risks Out of Rural Livelihoods to Empower and Protect People?* Deutsche Gesellschaft für Internationale Zusammenarbeit. Bonn/Eschborn.

⁹ L. Lan et al. 2024. [Are Vietnamese coffee farmers willing to pay for weather index insurance?](#) *International Journal of Disaster Risk Reduction*.

¹⁰ A. Panda. 2021. [Climate Change and Agricultural Insurance in the Asia and the Pacific Region](#). ADB. Background paper prepared for ADB. 2021. [Asian Development Outlook 2021 Update: Transforming Agriculture in Asia](#).

biodiversity, and watershed management. These products may indicatively include (i) credit guarantees to catalyze the issuance of green, blue, or nature and biodiversity thematic bonds; (ii) first-loss support for blended finance structures; and (iii) offtake guarantees for carbon and biodiversity credits to support finance mobilization for these. As an example, in 2024 GuarantCo Limited provided a guarantee for a green bonds issuance by an aquaculture company in Viet Nam, the first of its kind for the aquaculture sector in Asia.¹¹ The proposed project will conduct upstream assessments on regulatory and institutional frameworks, sector-specific context, and stakeholder analysis to identify constraints and propose solutions to (i) explore and unlock the potential of FRMPs and (ii) address challenges of WII to scale up climate financing in the agriculture and natural resources management sectors of the target countries.

10. Lessons. The TA design builds on lessons learned and good practices from relevant past and ongoing support from ADB and other development partners to the selected countries. These include (i) the need to conduct meaningful consultations with the public and private sectors, alongside local communities, to ensure the FRMPs are scalable and meets the needs of diverse stakeholders; (ii) sufficient resources allocation to strengthen capacity building and facilitate knowledge sharing, given that the benefits of these financial instruments are not yet widely recognized; (iii) strong engagement with the private sector to incorporate inputs into the design of FRMPs, given that they are potential adopters and may cofinance these products (the private sector can provide valuable input in identifying political constraints and proposed solutions to improve the enabling environment); and (iv) close collaboration with the public sector to secure government support and help shape a conducive enabling environment.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

11. The TA is aligned with the following impact: increased resilience of smallholder farmers (including fisherfolk) and micro, small, and medium-sized enterprises to weather shocks and disaster risks in Asia. The expected outcome of the TA is as follows: improved framework conditions and mechanisms to reduce climate-induced financial and/or operational losses within the agriculture and natural capital sectors resulting from extreme weather events.

B. Outputs, Methods, and Activities

12. Output 1: Enabling environment for promoting and scaling up innovative financial risks management products to address climate change impacts on agriculture and natural capital sectors defined. This output will conduct national and subnational diagnostic studies in selected countries to explore the feasibility of innovative financial risk management solutions to address climate risks, alongside identifying an enabling environment for scaling up solutions to address such risks. Particularly for WII, which has been piloted in Cambodia, Pakistan, and Viet Nam, this output aims to address the six key challenges on scaling up adoption of WII as mentioned in para. 8 (footnote 10). In addition, lack of reliable hydrometeorological data because of insufficient hydrological and meteorological observation stations may restrict farmers' trust in the WII products. In some countries, heavy public subsidy on agriculture insurance leads to unsustainability of the products. This output will select several existing pilots to delve deeper into the constraints listed in para. 8 and redesign the products to better fit the individual pilot project situation and context. A comprehensive households survey will be designed and implemented to

¹¹ GuarantCo. 2024. [GuarantCo Provides a VND 1.000 billion Guarantee Over Green Bonds Issued by IDI Sao Mai to Support Vietnam's Aquaculture Infrastructure, a First in Asia](#). News release. November.

address constraint (i) (poor design of basis risk) by analyzing actual loss of agricultural crops and the link to weather data (from monitoring stations); constraint (ii) (high premium cost) and constraint (iii) (inappropriate contract designs) by exploring farmers' preference on insurance products with regard to coverage period, premium, payout, and distribution channels through a choice experiment embedded in the household surveys; and constraint (v) (lack of awareness and knowledge about WII) by assessing the current knowledge and awareness of farmers about WII (and their usual information channels) to identify the most effective and innovative way to raise farmers' awareness on WII. Consultations will be conducted with insurance companies and value chain actors in agricultural products (e.g., input providers, mass producers, processing companies, exporters) as well as local banks and development partners to explore their interests and demands to address constraint (iv) (insufficient interest from suppliers and lack of clarity about clients' expectation from WII). For constraint (vi) (lack of enabling environment such as policy frameworks and market infrastructure), a review of policies and assessment of technologies and weather infrastructure (e.g., weather monitoring stations) will be conducted to evaluate the quality, reliability, and accessibility of weather data for developing and implementing WII. This output will (i) assess the cost of interventions and investigate interests and demands of microfinance institutions and value chain actors (e.g. seedling, fertilizer, exporters) in partnering with insurers and (ii) explore the feasibility of bundling insurance and credits products, input providers, and sustainability programs of large agriculture production corporates across the participating DMCs in this TA. By way of context, there are several successful cases that address the affordability of WII, including through bundling of insurance as a compulsory component with financial borrowing in India and Kenya.¹² For FRMPs that have not been piloted, this output will conduct an assessment of policy and regulatory frameworks,¹³ stakeholder consultation and analysis,¹⁴ and other necessary assessment to explore the feasibility of designing and adopting relevant FRMPs to scale up climate financing for natural capital investments. The TA will engage financial regulators, central banks, and securities commissions early during implementation to ensure product viability and compliance, as regulatory clarity is a prerequisite for private sector participation and product scalability. For Sri Lanka, the output will conduct an upstream assessment and scoping study to explore sustainable blended financing options linked to an upper watershed ecological restoration project that is in the lending pipeline of ADB. Synergies on FRMPs will be explored with the Building Adaptation and Resilience in the Hindu Kush Himalayas regional TA and the Climate Resilient Landscapes and Livelihood initiatives regional TA.¹⁵

13. Output 2: Integrated and innovative solutions developed and piloted in Viet Nam.¹⁶ This output will support a multifaceted approach to develop tailored solutions to the key issues and knowledge solution gaps identified. Based on the findings from output 1, output 2 will support the design of innovative and sustainable financial insurance models and establish a framework and road map of investment plans to support the adoption and scaling up of the insurance programs while addressing the identified gender gaps and the needs of women farmers and other vulnerable groups. The road map can include (i) improvement of government policies to facilitate

¹² World Bank Group. [Microfinance and Index Insurance: Testing Business Models in the Agricultural Sector](#).

¹³ Regulatory assessment can include insurance regulation (for index and parametric products), capital market rules (for thematic bonds), and carbon and/or biodiversity credit certification and offtake framework.

¹⁴ This includes private sector consultation and engagement through interviews and workshops.

¹⁵ ADB. [Regional: Building Adaptation and Resilience in the Hindu Kush Himalayas-Bhutan and Nepal](#); and ADB. [Nepal: Climate-Resilient Landscapes and Livelihoods Project](#).

¹⁶ The pilot activities will be specifically dedicated to Viet Nam under this TA. For Cambodia and Pakistan, findings from output 1 are expected to be incorporated into relevant pilots under upcoming ADB investment projects, including Cambodia: Smallholder Resilient Economic Development Sector Project and Pakistan: Punjab Water Productivity and Value Chain Improvement Project, which are both in the 2027 pipeline. The pilot activities through loan projects in Cambodia and Pakistan will be monitored and reported under this TA.

private sector competition¹⁷ in the insurance market; (ii) investment needed in automated weather data monitoring stations; (iii) application of technologies in designing WII; (iv) digitalized distribution of payout and dissemination of information to smallholder farmers, including women;¹⁸ (v) piloting of a public–private insurance pool shared among insurance companies, crops value chain actors, governments, and farmers to offer affordable products;¹⁹ and (vi) compulsory bundling of insurance with borrowing and/or inputs purchasing. The goal is to design a sustainable and inclusive insurance scheme that is affordable for the poor and climate-vulnerable farmers, including women farmers, in particular. In addition to WII, the road map will provide preliminary structural design for one or two blended finance options that could include, for example, first-loss capital, guarantee-backed insurance products, or offtake-backed biodiversity insurance models. This output will scale up selected pilots in Viet Nam using innovative insurance models developed based on results obtained from output 1, given that there are no relevant investment projects in the pipeline. The pilot activities in Viet Nam may contribute to the development of investment opportunities in climate insurance for Viet Nam.

14. Output 3: Knowledge and partnerships for innovative financial risk management solutions enhanced. This output will support the development of a digital knowledge platform integrated into an existing knowledge platform (e.g. ADB-PRC Regional Knowledge Sharing Initiative, Development Asia)²⁰ through framing and synthesizing evidence, success stories, and lessons learned from existing and ongoing work in this TA's participating DMCs. The goal is to effectively share best practices and contribute insights to output 1 and 2; bridge knowledge gaps; foster collaboration; and improve coordination among relevant stakeholders—including the private sector (insurance companies, agribusinesses, forestry and natural resources investors), relevant government agencies, farmers, and women representatives—to enhance understanding of financial instruments and their potential benefits to address climate risks in agriculture within and between regions. This output will develop a gender-responsive communication plan to raise awareness and engagement of DMCs, private sector partners, and regional programs. Capacity building and training activities (including regional training) for different stakeholders will be conducted under this output, alongside development of knowledge products and knowledge-sharing events.

15. Given the strong role of the private sector in mobilizing private capital resources and supporting the development of sustainable and profitable business models that can scale, the TA will emphasize development of a private sector engagement plan that can include investor roundtables, cofinancing dialogues, and risk-sharing partnership frameworks.

16. Outputs 1 and 2 would not only help to scale up existing pilots in the DMCs included under the TA, but also potentially pave the way for additional pilots across other DMCs. ADB will leverage its new operating model, and relevant initiatives (including the Nature Solution Finance Hub) to support operations across the region, including within the private sector. This will strengthen the capability to foster innovation, incubate new initiatives, and advocate for nontraditional business models to accelerate responses to climate risks and sustainable development, promoting meaningful participation of women and their empowerment. The digital

¹⁷ In India, a competition auction process determines the insurer offering the lowest premium quote for underwriting in specific areas.

¹⁸ The automated tools' user friendliness and automation could be explored and tested.

¹⁹ Formation of a national public–private agricultural insurance pool program can be found in India, the PRC, Thailand, and other advanced countries, including Austria, Spain, and Turkey. In Viet Nam, there is an opportunity to use high-quality national data as a service.

²⁰ The [Regional Knowledge Sharing Initiative](#) and [Development Asia](#) are the two knowledge collaboration platforms hosted by ADB. The two platforms cover multiple topics but do not have a separate section on climate insurance.

knowledge database generated in output 3 will enhance collaboration between various stakeholders by easing the flow of information, improving coordination between the public and private sectors, and enabling higher adoption of risk management products by smallholders, both women and men, and the private sector.

C. Cost and Financing

17. The TA financing amount is \$3.0 million, which will be financed on a grant basis by the Asia-Pacific Climate Finance Fund²¹ (ACLiFF) and administered by ADB.

18. Under TA projects funded by ACLiFF, eligible expenditures include consulting services, capacity-building activities, studies, and miscellaneous TA administrative and support costs.

19. The governments will provide counterpart support in the form of counterpart staff and other in-kind contributions. The total TA amount is broken down per output in Table 1.

Table 1: Cost Breakdown per Output

Output	Indicative Cost (\$)	Percentage of TA Amount (%)	
Output 1: Enabling environment for promoting and scaling up innovative financial risk management products to address climate change impacts on the agriculture and natural capital sectors defined	2,000,000		66.6
Output 2: Integrated and innovative solutions developed and piloted in Viet Nam	500,000		16.7
Output 3: Knowledge and partnerships for innovative financial risk management solutions enhanced	500,000		16.7
Total	3,000,000		100.0

TA = technical assistance.

Source: Asian Development Bank estimates.

D. Implementation Arrangements

20. ADB will administer the TA. The Agriculture, Food, Nature, and Rural Development Sector Office, Sectors Department 2 will (i) select, supervise, and evaluate consultants; (ii) organize workshops; and (iii) provide staff to act as resource persons in workshops.

21. Implementation arrangements are summarized in Table 2.

²¹ Financing partner: the Government of Germany.

Table 2: Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period	September 2025–June 2028		
Executing agency	ADB		
Implementing agencies	Cambodia: Ministry of Economy and Finance Nepal: Ministry of Finance and Ministry of Agriculture and Livestock Development Pakistan: Ministry of Commerce and the Punjab Agriculture Department Sri Lanka: Ministry of Finance Viet Nam: Ministry of Finance and the Viet Nam Meteorological and Hydrological Administration		
Consultants	To be selected and engaged by ADB		
	Firm (one for Cambodia and one for Viet Nam), QCBS (80:20)	Market assessment, product development, and pilot design for weather index insurance (international and national key experts, 39.0 person-months for each country)	\$1,000,000
	Firm (for all countries covered), SCQS	Policy, data infrastructure, capacity building, and knowledge platform development (international and national key experts, 53.0 person-months)	\$500,000
	Firm (for Pakistan), SCQS	Strengthening knowledge sharing and stakeholders' awareness on innovative crop insurance (national key experts, 7.0 person-months)	\$150,000
	Individual consultants: Individual consultant selection	TA coordinator (national, 30.0 person-months) Insurance service field managers (national, 30.0 person-months) Project manager cum fund manager for pilot in Viet Nam (international, 15.0 person-months) Natural capital financing consultants (international and national for each country)	\$1,000,000
Disbursement	Disbursement of TA resources will follow ADB's <i>Technical Assistance Disbursement Handbook</i> (2020, as amended from time to time).		

ADB = Asian Development Bank, QCBS = quality- and cost-based selection, SCQS = simplified consultants' qualification selection, TA = technical assistance.

Source: ADB.

22. **Consulting services.** ADB will engage consultants following the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).²² Resource persons may be engaged for short-term engagement in technical assessment, capacity building, and training activities.

23. **Cofinancier requirements.** The TA monitoring and reporting requirements and any changes in the implementation arrangements will follow ADB's applicable project administration and staff instructions and will comply with ACliFF implementation guidelines. All changes in the TA scope and objectives will be discussed with the ACliFF team.

IV. THE PRESIDENT'S DECISION

24. The President, acting under the authority delegated by the Board, has approved the Asian Development Bank administering technical assistance not exceeding the equivalent of \$3,000,000 to be financed on a grant basis by the Asia-Pacific Climate Finance Fund for Developing Innovative Financial Instruments to Address Climate Risks for Agriculture and Natural Capital in Asia, and hereby reports this action to the Board.

²² The terms of reference are in Annex 2.

DESIGN AND MONITORING FRAMEWORK

Impact the TA is aligned with Increased resilience of smallholder farmers (including fisherfolk) and MSMEs to weather shocks and disaster risks in Asia ^a			
Results Chain	Performance Indicators	Data Sources and Reporting	Risks and Critical Assumptions
Outcome Improved framework conditions and mechanisms to reduce climate-induced financial and/or operational losses within the agriculture and natural capital sectors resulting from extreme weather events	By 2028: <ul style="list-style-type: none"> a. At least 500,000 new farmers (of which 30% are women) have an improved knowledge of WII or bundled WII products in the three target countries (2025 baseline: NA) (DR7, DR8) b. At least 1,000 new government officials, and private sectors of which 30% are women have an improved knowledge on WII and how it enhances agriculture resilience to climate change (2025 baseline: NA) (DR 7, DR 8) c. At least two WII products developed by this TA piloted and scaled up (2025 baseline: 0) (DR7, DR8) d. At least 5,000 farmers (of which 30% are women) enrolled in the pilot products in Viet Nam (2025 baseline: 0) (DR7, DR8) e. At least 10 agricultural value chain actors have access to improved WII or bundling WII products in Viet Nam (2025 baseline: 0) (DR7, DR8) 	a–e. TA interim reports, TA annual progress reports, TA final report, post-training surveys	R: Changes in interest from the government and private sector
Outputs 1. Enabling environment for promoting and scaling up innovative financial risks management products to address climate change impacts on agriculture and natural capital sectors defined	By 2028: <ul style="list-style-type: none"> 1a. At least 5 comprehensive assessment reports on existing financial risks management products, their feasibility and applicability for the target countries developed (2025 baseline: 0) 1b. At least 3 policy recommendations and integrated road maps to promote WII in Cambodia, 	1a–c. Technical reports, TA annual reports, TA interim reports, TA final report	R: Data availability challenges delay report delivery R: Natural hazards and civil conflict challenges delay field assessment, surveys, and training activities

Results Chain	Performance Indicators	Data Sources and Reporting	Risks and Critical Assumptions
<p>2. Integrated and innovative solutions developed and piloted in Viet Nam</p> <p>3. Knowledge and partnerships for innovative financial risk management solutions enhanced</p>	<p>Pakistan, and Viet Nam drafted (2025 baseline: 0)</p> <p>1c. No more than 3 WII integrated products with their associated effective distribution channel and sustainable financial mechanism identified and designed with due diligence for the three target countries (2025 baseline: 0)</p> <p>2a. At least 1 integrated innovative WII product and its associated distribution channel developed and launched in Viet Nam with participation from public and private sector, incorporating gender-responsive design features^b (2025 baseline: 0)</p> <p>3a. A digital knowledge page on WII established and integrated into ADB's existing platforms (2025 baseline: 0)</p> <p>3b. At least 5 knowledge products on innovative financial risk management products for climate financing produced for the target countries (2025 baseline: 0)</p> <p>3c. At least 2 regional conferences organized for knowledge sharing on WII, with at least 1 session dedicated for gender and climate risk financing (2025 baseline: 0)</p> <p>3d. At least 10 training workshops on WII conducted for stakeholders including governments, the private sector, and farmers (2025 baseline: 0)</p> <p>3e. Capacity-building template for training farmers (including monitoring and reporting indicators) to be rolled out by insurance companies</p>	<p>2a. Technical report, TA annual reports, TA interim reports, TA final report, sales report</p> <p>3a–e. TA annual reports, TA interim reports, TA final report, training materials and list of participants</p>	<p>R: Changes in interest from the government and private sector</p> <p>R: Natural hazards and civil conflict challenges delay field assessment, surveys, and training activities</p>

Results Chain	Performance Indicators	Data Sources and Reporting	Risks and Critical Assumptions
	developed in the three countries (2025 baseline: 0)		
Key Activities with Milestones			
<p>1. Enabling environment for promoting and scaling up innovative financial risks management products to address climate change impacts on agriculture and natural capital sectors defined</p>			
1.1 In-depth surveys and stakeholders' consultation completed by Q4 2025			
1.2 A comprehensive report on strengths, weaknesses, opportunities, challenges, and recommendations for scaling up climate risk management products (including WII) for climate finance for each country completed by Q4 2026			
1.3 Road map of policy actions for scaling up WII for each country completed by Q4 2027			
1.4 Technical design and feasibility studies for integrated WII products and their associated distribution channels completed by Q2 2027			
<p>2. Integrated and innovative solutions developed and piloted in Viet Nam</p>			
2.1 Due diligence and thorough design for integrated WII products and distribution channels completed for Viet Nam by Q3 2027			
2.2 Pilot of WII products and distribution channel completed by Q2 2028			
<p>3. Knowledge and partnerships for innovative financial risk management solutions enhanced</p>			
3.1 Conduct a comprehensive baseline data collection and analysis of existing WII products, including lessons learned from previous pilot projects, stakeholder consultations, and desk review of secondary data completed by Q4 2025			
3.2 Designing digital knowledge platform integrated with ADB's existing platform with structured information, knowledge materials, success stories, and challenges on WII completed by Q4 2026			
3.3 Training and capacity building on WII and improved WII products for government officials, private sector, and farmers by Q4 2027			
3.4 Organizing conferences completed by Q2 2028			
TA Management Activities			
Mobilize consultants by Q3 2025			
Prepare inception report with detailed work plan Q4 2025			
Prepare interim report and conduct interim workshop Q4 2026			
Prepare draft final report and produce knowledge products by Q4 2027			
Conduct final workshop and submit final TA report by Q2 2028			
Inputs			
Asia-Pacific Climate Finance Fund: \$3,000,000			
Note: The governments of Cambodia, Pakistan, and Viet Nam will provide counterpart support in the form of counterpart staff and other in-kind contributions.			

ADB = Asian Development Bank; DR = development result; MSMEs = micro, small, and medium-sized enterprises; NA = not applicable; Q = quarter; R = risk; TA = technical assistance; WII = weather index insurance.

^a Government of Cambodia. *Agricultural Sector Master Plan 2030*; Government of Nepal, Ministry of Forests and Environment. 2021. *National Adaptation Plan to Climate Change*; Government of Pakistan. *National Adaptation Plan, 2023*; Government of Sri Lanka. 2016. *National Adaptation Plan, 2016–2025*; and Government of Viet Nam. 2024. *National Adaptation Plan, 2021–2030, with a Vision to 2050*.

^b Gender-responsive design features refer to product elements, services, and distribution mechanisms that (i) are informed by an analysis of women's specific needs, constraints, and preferences; (ii) ensure accessibility, affordability, and usability for women; and (iii) proactively address barriers such as limited financial literacy, mobility, time constraints, and access to information and technology.

Source: ADB.