

Monitoring & Evaluation (M&E) Plan and Impact Statement Form

Date: 13/05/2026

Basic Information	
Title of response plan	Reducing Smallholder Farmers vulnerability to climate change impacts including water scarcity in Mongolia through ecosystem-based adaptation (EbA) and digitalized risk mitigation insurance solutions.
Technical assistance reference number	LTR/2025/771/CTR
Country/ countries	Mongolia
NDE focal point and organisation	Ms. Narangaravuu Altangerel - MECC
Sector(s) addressed	<ul style="list-style-type: none"> ■ Agriculture (vegetable production) ■ Water resources management ■ Climate change adaptation ■ Forestry / agroforestry ■ Finance and insurance (risk mitigation)
Technologies supported	<ul style="list-style-type: none"> ■ Solar-powered and water-efficient irrigation systems (e.g. drip irrigation) ■ Climate-resilient greenhouse technologies ■ Agroforestry and forest-strip protection (ecosystem-based adaptation) ■ Digitalized crop insurance solutions (weather-index and remote sensing-supported)
Implementation period and total duration	2026–2027 (18 months)
Total budget for implementation	197,440.00 USD
Designer of the response plan	Adele Antoni
Implementer of response plan	OIKO

(A) Outputs and Activities as described in the Response Plan	(B) Indicator	(C) Expected results	(D) Method and frequency for data collection	(F) Comments
Pre-implementation Activity: Updating the project document as per the expectations, in line with budgetary and time constraints	Policies, strategies, plans, legal frameworks, agreements, or regulations proposed, adopted, or implemented under TA	Detailed work plan; M&E plan; gender assessment and gender action plan	Review of Project Documents	The IR includes a more detailed narrative on the institutional/organisational roles, responsibilities, coordinating actions and feedback mechanisms of project related partners.
Output 1: Inception workshop and technology options	Total number of events organized by proponents and implementing partners	1 inception workshop	Attendance lists, meeting minutes, workshop report; collected once during event	Participation depends on stakeholder availability
Activity 1.1 Inception workshop	Number of participants in events organized by proponents and implementing partners	~30–40 participants (government, farmers, technical institutions) between national and subnational level	Participant registration sheets; collected during event	Sex-disaggregated data (male/female participation) will be collected and reported for all events, with a target of at least 40% women participants.
Activity 1.2 Feasibility studies on irrigation, greenhouse and agroforestry technologies	Number of tools and technical documents strengthened, revised or developed	1 feasibility study report assessing climate-resilient technologies	Review of deliverables and technical documentation; collected once	Availability of local data may affect analysis
Activity 1.3 Cost-benefit analysis including water sustainability and maladaptation risks	Number of tools and technical documents strengthened, revised or developed	1 cost-benefit analysis report	Review of analytical outputs; collected once	Cost and yield data may require estimation
Activity 1.4 Development of technology menu and farmer guidelines	Number of tools and technical documents strengthened, revised or developed	1 technology menu/guideline document	Review of final document; collected once	Adoption beyond project scope
Output 2: Policy and regulatory framework for climate-resilient technologies	Total number of policies, strategies, plans, laws, agreements or regulations supported by the assistance	2–3 policy recommendations or regulatory proposals developed	Review of policy briefs and consultation reports; collected once	Adoption depends on government decision process

(A) Outputs and Activities as described in the Response Plan	(B) Indicator	(C) Expected results	(D) Method and frequency for data collection	(F) Comments
Activity 2.1 Policy review and gap analysis	Number of tools and technical documents strengthened, revised or developed	1 policy and regulatory gap analysis report	Desk review and documentation of findings	Access to updated policy documents required
Activity 2.2 Development of national guidelines and certification standards	Number of tools and technical documents strengthened, revised or developed	1 guideline or certification framework	Review of guideline document	Requires consultation with ministries
Activity 2.3 Agroforestry policy integration	Anticipated number of policies proposed as a result of TA	1 agroforestry policy recommendation	Policy brief and consultation notes	Policy uptake may occur post-TA
Output 3: Financing structure and digital insurance scheme	Number of tools and technical documents strengthened, revised or developed	2 financial concept documents (blended finance model + insurance prototype)	Review of financial concept notes; collected once	Implementation depends on financial institutions
Activity 3.1: Engage financial institutions to design a blended finance facility for smallholders, leveraging public and private funding.	Number of financial institutions engaged Number of proposed financing mechanisms accessible to women and marginalized groups	At least 3–5 financial institutions consulted and engaged	Surveys/focus group discussions with farmers	Requires engagement with banks and investors
Activity 3.2: Assess and design a digitalized insurance product tailored for smallholder vegetable farmers, exploring AI, remote sensing, or picture-based approaches.	Number Gender-responsive insurance prototype developed	At least 1 Blended finance facility proposal developed with gender-responsive eligibility criteria	Review of insurance product documentation Data collected during assessment phase and validation workshops	
Activity 3.3: Identify partnership and risk-sharing structures (e.g. guarantee funds, reinsurance) to lower premiums and expand coverage.	Number of partnerships/risk-sharing arrangements identified	Partnership and risk-sharing framework developed Potential guarantee funds, reinsurers, and public-private mechanisms identified	Data collected throughout partnership discussions	

(A) Outputs and Activities as described in the Response Plan	(B) Indicator	(C) Expected results	(D) Method and frequency for data collection	(F) Comments
Output 4: Capacity building and training	Number of trainings organized by proponents and implementing partners	3–4 training sessions conducted	Training reports and agendas; collected after each event	Scheduling depends on agricultural calendar
Activity 4.1 Training curriculum development	Number of other information materials strengthened, revised or created	Training materials and presentations developed	Review of training materials	Materials may be translated
Activity 4.2 Training workshops	Number of participants in trainings organized by proponents and implementing partners Percentage of women participants in training sessions	~60 participants trained At least 40% women participation across all training activities	Attendance lists and feedback forms	Sex-disaggregated data (male/female participation) will be collected and reported for all events, with a target of at least 40% women participants.
Activity 4.3 Institutional capacity strengthening	Total number of institutions trained	At least 10 institutions trained (government, private sector, NGOs)	Institutional participation records	Includes ministries, research institutions
Output 5: Implementation roadmap and scaling strategy	Total number of deliverables produced during the assistance	Final implementation roadmap produced	Review of final report; collected once	Dependent on completion of previous outputs
Activity 5.1 Implementation roadmap	Number of tools and technical documents strengthened, revised or developed	1 national implementation roadmap	Review of final document	Designed to guide future investments
Activity 5.2 Sustainable financing strategy	Anticipated number of collaborations facilitated	3–5 stakeholders engaged for scale-up initiatives	Stakeholder consultation records	Potential donors or investors
Activity 5.3 Final validation workshop	Total number of events organized by proponents and implementing partners	1 final validation workshop	Workshop report and attendance list	Participation depends on stakeholder availability

Note: The Response Plan may contain information useful for the section below. The information in the table below will be used by the CTCN for public communication of the achieved and expected results of the Technical Assistance through the CTCN website www.ctc-n.org and other communication channels. See for example: https://www.ctc-n.org/sites/www.ctc-n.org/files/benin_a_ag_forestry.final_.pdf

Impact Statement	
Challenge	Smallholder vegetable production in Mongolia is highly vulnerable to climate variability, water scarcity and extreme temperatures. Production systems rely on limited irrigation infrastructure and low-efficiency greenhouses, while heating costs and short growing seasons constrain productivity. The absence of suitable climate risk management instruments and limited access to finance further restrict farmers' capacity to invest in climate-resilient technologies.
CTCN assistance	<ul style="list-style-type: none"> ■ Conduct feasibility studies on climate-resilient vegetable production technologies, including passive solar greenhouses, efficient irrigation systems and agroforestry practices adapted to Mongolia's dryland conditions. ■ Perform cost-benefit analysis and water resource assessments to identify economically viable and environmentally sustainable technology options. ■ Explore innovative financial mechanisms, including digital insurance concepts and blended finance approaches, to reduce climate risk and facilitate investment. ■ Support policy dialogue and institutional capacity to enable scaling of climate-resilient agricultural technologies.
Anticipated impact	<p>The technical assistance is expected to strengthen the climate resilience of smallholder vegetable farmers in Mongolia by enabling the adoption of water-efficient irrigation systems, climate-resilient greenhouse technologies, and ecosystem-based adaptation practices.</p> <p>Improved access to financial mechanisms, including digital insurance and blended finance solutions, will reduce investment risks and enhance farmers' capacity to adopt climate-resilient technologies.</p> <p>At the institutional level, the project will contribute to improved policy frameworks and strengthened capacity for scaling climate-resilient agricultural practices, supporting long-term sustainability and resilience in the sector.</p>
Anticipated co-benefits from the TA	The technical assistance will promote sustainable water management and climate-resilient land-use practices through agroforestry and improved irrigation systems. Increased domestic vegetable production may strengthen food security, reduce reliance on imports and support more resilient rural livelihoods.
Gender aspects of the TA	<p>The technical assistance integrates gender considerations through a dedicated Gender Assessment and Action Plan (GAAP). Women farmers and women-led agricultural enterprises will be actively targeted to ensure equitable participation in consultations, training, and pilot activities (minimum 40% participation).</p> <p>The project will promote women's access to climate-resilient technologies, financial services, and digital insurance solutions, while addressing structural barriers such as limited access to finance, time constraints, and information gaps.</p> <p>Sex-disaggregated data will be collected to monitor participation, access, and benefits, ensuring that gender equality outcomes are systematically tracked and achieved.</p> <p>Particular attention will be given to women-headed households, young women farmers, and those in remote areas who face compounded vulnerabilities due to geographic and socio-economic constraints.</p>
Anticipated contribution to NDC	<ul style="list-style-type: none"> ■ Supports Mongolia's NDC priority on climate-resilient agriculture and sustainable land management. ■ Promotes climate adaptation measures addressing drought, water scarcity and land degradation. ■ Strengthens climate risk management and resilience in the agricultural sector. ■ Contributes to sustainable and climate-resilient food production systems.
The narrative story	Agriculture in Mongolia faces increasing climate pressures, including drought, water scarcity, and extreme seasonal temperature variations. Vegetable production, which plays an important role in improving food security and rural incomes, remains highly vulnerable to these climatic conditions. Smallholder farmers often rely on low-efficiency irrigation methods and simple

	<p>greenhouse structures that are poorly adapted to extreme winter temperatures and limited water availability.</p> <p>This technical assistance aims to identify practical and economically viable, environmentally sustainable, and socially inclusive. The project will assess the feasibility of different greenhouse technologies, including passive solar greenhouses, and evaluate efficient irrigation systems suitable for dryland conditions. Cost-benefit analysis and water resource assessments will be conducted to identify technology options that are both economically viable, environmentally, and socially sustainable.</p> <p>In addition, the project will explore financial risk mitigation mechanisms, including digital insurance concepts and blended finance models, to support investment in climate-resilient technologies. Through stakeholder engagement, policy dialogue and capacity building, the technical assistance will contribute to developing scalable pathways for strengthening climate resilience in Mongolia's horticultural sector.</p>
<p>Contribution to SDGs</p>	<p>SDG 13 – Climate Action The project supports climate adaptation in agriculture by identifying and promoting technologies that enhance resilience to drought, water scarcity and temperature extremes.</p> <p>SDG 2 – Zero Hunger By improving the productivity and resilience of vegetable production systems, the project contributes to strengthening food security and reducing dependence on imported vegetables.</p> <p>SDG 8 – Decent Work and Economic Growth The project promotes sustainable agricultural development and supports income stability for smallholder farmers through climate-resilient technologies and improved investment conditions.</p>
<p>Reference to knowledge products</p>	<p>The technical assistance may draw upon the following Technology Executive Committee knowledge resources:</p> <ul style="list-style-type: none"> ■ TEC Brief on Climate-resilient agriculture and food systems ■ TEC Brief on Climate technology innovation systems ■ TEC guidance on enabling environments for climate technologies ■ TEC policy brief on innovation for climate adaptation

Some general notes on Reporting - The timely preparation and the presentation of the following reports will be the responsibility of the Team Leader/Project Manager, with his team.